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# Does Beekeeping Pay?

By Lee Stewart,  
Indiana.

The old saw, "Thar's gold in 'em 'er hills," is taken too liberally by a lot of embryo beekeepers who have the impression that a box and some bees are the only requirements for success. The old prophet was right; but there is a lot of hard, intelligent work to be read between the lines.

In any discussion of successful beekeeping, there are three important factors that must be considered, namely, the beekeeper himself, the bee pasture and the equipment. The degree of their perfection directly determines the operator's measure of success.

Of course, the most important of these is the beekeeper, and we find as many varieties of him as of apiary. There are good, bad and indifferent beekeepers. The fact that one likes honey or would like to pick up some extra change are poor reasons indeed to begin beekeeping. But in practically every case, these are the reasons back of every beginner. There is a lot of sentiment, but little fact in the statement that So and So keeps bees for pleasure, except, of course, the comparative few that are kept in research laboratories for scientific study. I have never been able to discover any pleasure in lifting tons of honey out in the hottest of suns with any chance breeze obstructed by a veil, particularly when I am hustled along now and then by the busy end of a bee.

Too many beginners soon discover that the rainbow's end is just over on the other side of the hill and give up in disgust, leaving bees and equipment to the ravages of pests and disease. But on the other hand, there are the 1 or 2 per cent who dig in and apply themselves, work, study

and slowly, but carefully, feel their way along, developing into extensive and successful beekeepers; and in between there is the ne'er-do-well who just drifts along, makes no progress, yet is able to keep going, a class that makes beekeeping difficult for the business-like beekeeper. The ne'er-do-well has no idea of the cost of production; and, unless one knows this, he can never make a success of any enterprise. Often, as far as he is concerned, a few extra pounds of honey glut the market, resulting in panic and dumping.

The bee pasture factor is universally overlooked, and it is probably more important than either of the others; for the best beekeeper in the world, with model equipment, could not succeed where there is no nectar. One should study his pasture as faithfully as he studies his bees. The whole season should be charted as to the blooming period of each nectar-bearing plant, its probable yield and duration; and the apiary activities should be timed accordingly. Frequent trips of inspection should be made to the bee pasture in order better to time bee yard operations. Few beekeepers do this, probably less than 5 per cent of all; many do not even know the blooms that secrete nectar within the reach of honeybees. Some locations are either a feast or a famine; others seldom produce a bumper crop, yet always yield something which is preferable. Bee pastures, like sands, will shift. The Red River Valley had no bees to speak of before the advent of sweet clover, and places that once yielded bumper crops from little Dutch clover are now barren.

There are nearly as many kinds of

equipment as there are beekeepers, which would be all right if every one knew how to handle his own particular variety. Many do, but there are many more that do not. Any equipment put out by a reputable company is accurate, made according to proper dimensions worked out years ago by the old masters, a big job that we today do not appreciate as we should. No particular kind of equipment nor size is necessary so long as it is accurate and the operator knows how to use it. It must be workable; and the poorer the beekeeper, the better the equipment should be. It is impracticable to have more than one size.

Now before someone accuses me of being an old maid trying to tell the mother how to rear her children, I shall give you a few figures. The proof of the pudding is in the eating. I am making no claims as a beekeeper; but I do know my pasture, have good, accurate, workable equipment and know how to use it in my location. In 1934 I produced 8800 pounds of section comb and extracted honey from a spring count of eighty-three colonies. I sold this crop for \$906.35, plus \$1 for queens and \$14.40 for wax, a total of \$921.75. I also reared several queens for myself and increased ten colonies. My total expense for the year was \$94.88, but I had left \$20.25 worth of supplies which cut my expense to \$74.63, giving me a net balance of \$847.12 for my labor on a side line in my back yard. The bees did all the trucking in; I had no trucking bills out. Some one will say, "How about your investment?" Well, the bees built their own business from an outlay of an old eight-frame hive that didn't cost

much. In addition, they have paid a good profit each year. Taxes? Yes, nearly \$4, about one-sixth of the honey we ate and gave away.

But I sold my crop and 1200 pounds in addition, and I made a profit of \$6 on that. You probably realize that it's one thing to produce a crop and quite something else profitably to dispose of it. After you produce a crop you must also sell it, just as though you had manufactured it. It doesn't seem right for the methods of the factory to apply to an agricultural pursuit, but they do.

As I said before, this may be a good thing for beekeeping.

In conclusion, I say that there is money in beekeeping, provided one is not afraid of hard work and has a fair knowledge of bee behavior and its application to his own particular pasture, which need not be the best and must not be barren, and to his equipment, which must be simple, accurate and, by all means, workable. I believe any margin of profit in beekeeping is in direct proportion to the maximum number of colonies one can care for and which his own back yard will support.

## The Big Hive and the Demaree Swarm-Control Plan

By Hy. W. Sanders,  
Manitoba.

This year, for the first time, we have had a number of Jumbo hives, and we like them. For a long time past we have felt that the Langstroth hive was too small for a good colony, and the two-story Langstroth at best a poor makeshift for the purpose of trying to hold a "standard" in the face of practical objections. With our long and severe winters, it is true, an extra full-depth super of honey is none too much for a colony; but if one uses a cellar, the two-story Langstroths take up altogether too much room. The Jumbo meets this objection; so we put in twenty last summer, and they all wintered perfectly in the cellar except one in which the cluster got stuck at one end of the hive and starved within six inches of abundant stores. The wintering aspect of the Jumbo seemed to be satisfactory, so fifty more were bought and are being installed in the current season.

However, we have struck one snag in the fact that swarming tendencies this season have proved quite a problem. We noticed in the American Bee Journal that at Hamilton, Illinois, there was the same sort of situation—bees very strong and prosperous, but held within their hives by continuous wet and cloudy weather. We are thankful that our problem did not include floods as well.

About the same time in Gleanings was a article by a beekeeper who had discarded the big hive, giving as his reason, among others, that as the combs were not interchangeable he could not use the Demaree plan for swarm-control with the Jumbo hives. This set us thinking if there were not some way around this objection and we think that we have found it.

The kernel of the Demaree plan lies not so much in changing the

combs of the brood-chamber and the super, as in putting the queen on an empty set of combs just at the time when the brood combs show signs of congestion. This maneuver takes away the strain on breeding space which is one of the causes of swarming.

Our method therefore is this. As soon as the Jumbo hive body seems to be well filled, we find the queen and put her on an empty set of brood combs above, with a queen excluder between. Nine days later we cut out any cells that have been started below, and replace the queen in the brood nest. This has all the essential features of the Demaree plan and it works.

Finding the queen in the first part of the operation is the only objectionable feature we have found so far. We look through the combs once. If the queen is not found, the hive is closed and we have another try the next time around. In most cases we find her the first time. When we come to put the queen back again below the excluder the process is more simple. The combs from the new brood nest are just shaken in front of the entrance. All the bees, including the queen are soon inside.

It would not surprise us if the ultimate solution of our winter problem might consist of a hive even deeper than the Jumbo. It would be more like the bees' natural home in a hollow tree. Certainly we are doing violence to their instincts when we expect them to winter in a Langstroth, a flat hive originally planned for use with comb honey supers, into which the bees have to be "forced," which has very little space for storage of winter supplies where the bees need it, right above their heads.

## Some Miscellaneous Honey Plants

By C. W. Wood,  
Michigan.

The figworts have had many ups and downs as economic plants. First they were highly prized as a remedy for scrofula (hence the generic name *Scrophularia*), a use now fallen into disrepute. Then the plant (*Scrophularia marilandica*) which we are now considering was advanced by some enthusiasts as a garden ornament. In the latter sphere the plant is a little too weedy for general use; consequently, it made little headway among gardeners, though it is sometimes used for its dark foliage as a background in the hardy border. To the beekeeper, though, the species mentioned suggests possibilities of far greater importance than either of the other roles it has been called upon to assume. The plant is found throughout the United States, chiefly in rich, open woods in the eastern states where I have observed it, though shade does not seem necessary for its comfort. In the garden it grows in any rich soil, getting four to six feet high and producing its dull purple flowers from July until September. This is the plant sometimes referred to in literature as Simpson's honey plant.

As a garden plant, the great willow-herb (*Epilobium angustifolium*) has much to recommend it, though its habit of spreading far and wide must be guarded against in the flower borders. As a bee plant, this habit of spreading and persisting against odds is much in its favor. It is found in low, moist places in most parts of the United States, and, like the preceding plant, its natural habitat is not necessary for its well-being. It will be noted, though, that it is not a rank grower when transferred to dry soil but it will spread just as rapidly and bloom almost as profusely in the latter case. This willow-herb is a heavy yielder of nectar during July and August when nectar plants are not always plentiful.

There is so much variation in nectar flow in different species of plant families and even within a single species, according to its growing conditions, it is seldom safe to deal in generalities when writing on the subject. Considering the facts, however, that bees freely visit all members of the smartweed family and some of the species have been reported as heavy producers of honey, it is probably safe to assume that species other than those now on record as nectar plants may possess that trait. With this end in view, it would be well to give that prince of bushy smartweeds, *Polygonum Sieboldii*, a thorough trial.

It grows up to eight feet in height, with pleasing foliage and clouds of small white flowers for two months in late summer and early autumn. This is one of the most handsome of the bushy smartweeds and deserves a place in gardens for its beauty alone. A word of caution should be issued, though, regarding another of these bushy smartweeds—*Polygonum sachalinense*. It was introduced into the United States in the late years of the last century as a forage plant and was much planted at that time. Never let it get within striking distance of your place! It spreads so rapidly by means of underground shoots it is almost impossible to eradicate it once it has secured a good foothold. The first mentioned species has no such fault, however, and can be recommended as a first class plant.

## Who Speaks Flemish?

Emil DePauw of David City, Nebraska, wishes to correspond with

Flemish speaking Belgian beekeepers. Anyone among our subscribers qualifying, get in touch direct with Mr. DePauw.

## Selling Honey By Liquiteria Method

By C. M. Litteljohn,  
Washington.

Featuring honey in bulk, slowly flowing from a prominently displayed barrel into the customer's own honey container, builds new sales for the Liquiteria, which has been established by R. W. Thompson in the Security Market of Seattle. Three kinds of honey are available: Pure Washington honey from the clover lands of the northwest state, a lighter honey from the white sage districts of California, and Guatemala honey gathered from blossoms of the coffee trees in that Central American republic.

"Bring your own container," request Manager Thompson and his orange-smocked assistants; and the jar, glass or can is filled from the honey barrel, saving the cost of a container. The idea of freshness is featured in this bulk handling. There is nothing to be shop-worn, no labels to become faded, soiled or spotted, no lack of shelf-appeal.

The method of selling liquid food in bulk, and featuring honey sales in this manner, has proved to be quite popular in this market.

### Honey Cocoanut Pralines

- 1 cup honey
- 2 cups confectioners sugar
- $\frac{1}{2}$  cup rich milk or evaporated milk
- 1  $\frac{3}{4}$  cup desiccated cocoanut

Combine the honey, sugar and milk and boil rapidly to 245° F. Beat until it begins to cream, add cocoanut and drop onto a buttered pan by teaspoonfuls. Set in ice box before using.—Miss Davison, Univ. of Calif.

# British Columbia Loses W. J. Sheppard



WE publish a picture of the late Provincial Apiarist of British Columbia, W. J. Sheppard who passed away on the 18th of June. We have just been informed of his loss by L. W. Johnson, Senior Clerk of

the Department of Agriculture of British Columbia. Mr. Sheppard has been active for a long time in beekeeping in British Columbia and the Northwest. His many writings will

be remembered by our older readers. He was not only a beekeeper but a great lover of flowers. This picture shows him in his garden. So we lose another one of our leaders.



# Queen Rearing

By Herman McConnell,  
Illinois.

IT is an old proverb that the child born on Sunday will be fair of face, that he born on Monday will be full of grace and so on to the child who beholds the light of day on Saturday. He will have to work for his living. As I happen to be one of those luckless individuals born on Saturday whom fate has decreed shall work for a living, I can testify that the proverb still holds good, despite the NRA, the CWA or any other of the alphabetical combinations. I have accepted my fate and have endeavored to do as much as possible in the least time and, incidentally, with the least amount of effort. And this attitude of mine can be applied to queen rearing.

There are only two impulses under which bees rear queens naturally—swarming and supersedure. Some persons claim a third impulse—queenlessness; but it occurs so rarely that one can hardly call it an impulse. In fact, I doubt that it ever occurs except through accident. However, it is on queenlessness that the breeder has staked his only hope.

To get queens by swarming or by supersedure in any number throughout the season is entirely out of the question. One of the greatest difficulties of the queen breeder has been getting his bees to accept his grafted cups. After they were once started, he had little trouble in getting them completed. So, in order to get as many as possible of his grafted cups accepted, he has resorted to the swarm box, making colonies queenless, broodless and so on. Have you ever in your life seen the bees throw out queen and brood just to get a batch of cells started? No, you have not. Neither have you ever seen a ball of bees as big as your hat hike off to some old box and pull the hole in after them so that they would be in better shape to start a fine batch of cells. Yet that is the very thing man has been doing with his bees. Yes, we have done the same thing ourselves, but never again!

Almost every novice who has advanced far enough to try his hand at rearing queens and who has begun to inquire as to method and procedure will ask, "Why not give cups directly to finishing colonies to start?" To which the books reply, "For the simple reason that the bees will have none of them." I have asked that question myself and have got the same reply. I thought perhaps the books were wrong; so I tried the plan

but with not enough success to warrant continuing it. Nevertheless, the question continually kept bobbing up in my mind until finally the bees revealed the answer.

Most breeders agree that the greatest bugaboo to contend with (other than the weather) is robbing. To fill several swarm boxes with five to seven pounds of bees two or three times a week runs into a lot of work and takes a lot of bees. If the work is done during the honeyflow, many a luckless bee will be suffocated in its own honey as it is almost impossible to shake bees from combs without smearing them. It is not unusual to lose the entire force in a box or two if the weather is hot and humid. If this practise is carried on during a dearth of nectar, it is the next thing to suicide. What fun the robbers have!

The method which uses a queenless colony gives somewhat better results, but one is still confronted by the problem of robbers during a dearth; for such a colony has little incentive to protect its abode, and its bees, flying about the yard, remind one of kids lost at a circus.

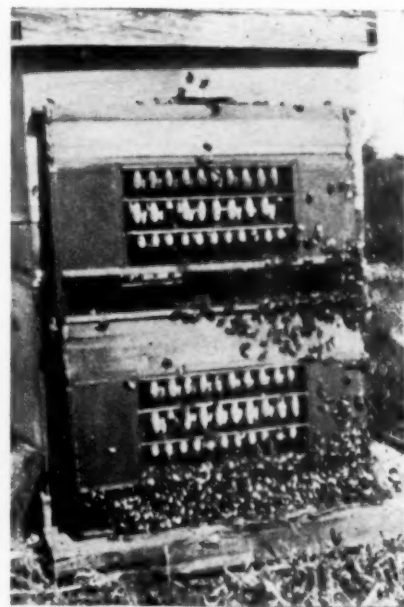
Then, too have you ever considered why the finishing colonies reject so many grafted cups as they do? If you could get them to accept and finish approximately 95 per cent of them, would you still use the above methods? I doubt it. Do you suppose that should your bees out in the

clover patch run across some of the cups you have used, they would recognize them as queen cell cups? Absolutely not. You have doubtless observed when removing ripe cells that the bees have perhaps rejected a cup or two and have made it over into an embryo queen cell. Did you ever graft some of those cups and give them to finishing colonies? If you have not, a most pleasant surprise waits you. That is how the bees revealed the secret to us.

We use the dipped cell cups suggested to the beekeeping fraternity by Doolittle. We have, perhaps, had the time, but we have never had the inclination to use the three dipping sticks as he did, nor have we ever been able to equal him in dipping 150 to 200 cell cups an hour. We have made a machine that dips 85 cups at a time, or from 1200 to 1400 an hour. By means of leveling screws for the pan of wax and for the dipping frame the cups are kept the same depth and size. The pan has a gauge to determine at what height melted wax should be kept. There is a little wedge slide at the top which regulates each dipping as the object is to get a thin edge where the bees work and a heavy base for easy handling. These cups are fastened to thin strips with a heated tool similar to that used in



Machine that dips 85 queen cups at a time or from 1200 to 1400 an hour.

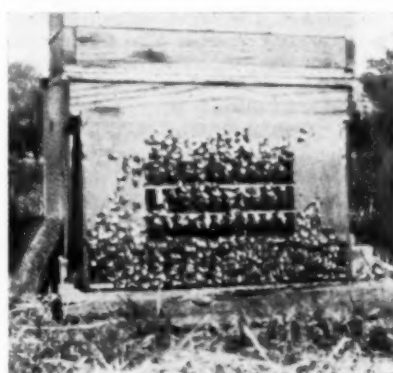


Frames from two colonies with bees driven from cells showing cells in various stages. 118 given with 5 rejected. Lower bars of each frame contain cells 24 hours old. These cells were all started during cold rainy spell in May.





Construction of cell bar frame. Also bars with cups attached showing how they are staggered.



Frame showing how bees cluster about cells.

fastening foundation in section boxes. We do not care for the little wooden cell cup holders, as too much time is taken up in gathering them from the nuclei and in cleaning them to be used again. The wax used must be of a good grade. That from cappings or bits of burr combs run through a solar wax extractor is ideal. We do not know whether or not the bees will reconstruct the pressed cups for sale by bee supply houses, as it has been eighteen years since we have used any of them. Those who use them will have to find that out for themselves.

As we desire to keep the cells within the contour of the brood, we have departed a little from the frame usually furnished by the supply companies. Thin boards are fitted in, as in the illustration, so that adjoining combs will not be built out irregularly as would result if comb occupied such space. The frame is light to handle. The opening made by the cell bars is an ideal place where nurse bees like to congregate. The cells are located in a place where the temperature remains almost constant.

Perhaps some people will say that most colonies preparing to swarm will build cells along the lower edge of the comb. Yes, they will; and we

have seen them even below the bottom bars. But cut a hole about the size of a dollar in the center of one of the brood combs of a strong colony which you think will make preparations to swarm in about a week or so, and if it does not build one or two fine cells there, we owe the treats. You will notice that our frame holds three bars. By staggering the cups we get from fifteen to twenty-one to the bar, depending on the strength of the colony. We want each cell to be so lavishly supplied with food that the larva cannot possibly consume it all. In fact, we never want to give more grafted cups at one time than the bees would build naturally.

When we prepare a colony for cell building, we put in a couple of bars of empty cups for the bees to work on which they will reconstruct to the point of acceptance in from thirty-six to forty-eight hours. As each colony receives a bar of grafted cells every fourth day, it gives the bees plenty of time to work them over. When the first bar of ripe cells is removed, a bar of empty cups is given in its place. In two days this bar is again removed, the cells are primed with fresh royal jelly (thinned with warm water to the consistency of moderately thick cream) which is stirred around in the bottoms of the cups so that it has the appearance of having been put there by the bees. We transfer a larva ten to sixteen hours old to each cup and give them back to the bees. If you have used a reasonable amount of care, you can expect approximately 95 per cent of the cups to be accepted and completed. In twelve or fourteen hours, look at them and you will observe that they are further along than cells taken from swarm boxes twenty-four hours after grafting. Furthermore, if you make conditions right, the bees will not remove all this jelly as they do when cups are given to swarm boxes or to queenless and broodless colonies.

There have been several debatable articles by noted queen breeders appearing in the journals as to the advisability of priming cups with jelly. Some writers claim they get better acceptance with its use. Others say it is not good, as the bees remove it anyhow. Well, they had to remove it in order to work the cups to their liking. It is quite evident that the larvae did not receive the best of care during that time. Any method of rearing queens which permits the larvae at any stage to be devoid of food will not produce the best queens. Some writers contend that the nurse bees in the swarm box are gorged with pap and are in an ideal condition. Perhaps this is true, but they are as reluctant to put the pap in improvised queen cups as bees are to store honey in five-pound pails. Not until these cups begin to take the form of embryo cells will you find food

of any quantity in them. When you compel the bees to do too much in too short a time, the quality of their product will always be questionable.

Perhaps these plans may not appeal to some persons, especially if they have to lift a lot of heavy supers or to go through many preliminary maneuvers, but for the kind of hive we described last month, it works at its best. Brood, of course, will have to be exchanged ever so often and we take exception to the contention of most authorities that unsealed brood should be placed next to cells. We want mostly sealed brood in the cell compartment and the reason is obvious. With little unsealed brood the bees evidently reason that their queen is failing and they gladly accept our grafted cups. As the hive is crowded with nurse bees that can go back and forth through the queen excluding division board, they have nothing in the side compartment to feed but cells.

We have used this method for the past ten seasons; and, as we have used nearly every method advocated prior to that time, we feel qualified to say that we have found it an outstanding success.

## Milk and Honey Pictorialized

By H. A. Insinger,  
Missouri.

Milk and honey, of biblical fame, held their own in the diet of mankind for thousands of years. Chiefly during this last century, when sugar and a growing variety of manufactured food products, thoroughly devitaminized and devitalized, made their appearance, did the honey have to step back and become a drug on the market.

Owing to the efforts of the American Honey Institute and its energetic boosters this sad condition will, apparently, be another nightmare of the past. Honey will be one of the health foods of the future and the claim of beekeepers that good old honey is one of the best foods for sick and invalids will be substantiated.

The University of Minnesota has been experimenting for several months with a diet consisting solely of milk and honey, in order to test its merit as food for invalids. But the proof of the pudding is in its eating, and Dr. Mykola Haydak of the University of Minnesota experimented on himself. For four months he lived on nothing else than milk and honey with an occasional bit of orange juice to ward off scurvy. Thus he proved to his own satisfaction that a person can be healthy for four months on milk and honey.



# EDITORIAL

## AMERICAN BEE JOURNAL

### Weeds

There is an element of danger in the enthusiasm of beekeepers for new honey plants. Some bad weeds are good sources of nectar and the beekeeper is sometimes tempted to distribute them in new localities in an effort to improve the bee pasture. Occasionally a letter comes asking where seeds of the vining milkweed or bluevine can be obtained. Any beekeeper, who spreads plants which are persistent and troublesome weeds, makes a serious mistake. He should take every precaution to avoid their further distribution.

Canada thistle and sow thistle although they are good honey plants are bad weeds. They should be dug up at every opportunity.

Sweet clover was long regarded as a weed, and in many places the bee men aroused serious antagonism because they persisted in sowing it. Sweet clover has proved to be a valuable forage plant, rather than a weed; but these others have no redeeming qualities.

### Enthusiasm

A friend of this magazine who is past eighty years of age and who has spent more than sixty years at beekeeping still retains his keen interest in his bees. When he does not feel well he places his cot where he can rest in sight of the colony on scales. From there he watches the coming and going of the busy workers. He regards the bees as the finest work of the Creator and feels that his life will not be long enough to satisfy his interest in them.

There is something about beekeeping which helps one to retain a youthful spirit and to maintain an active interest to the end of a long life. Few human callings are equal to that of the hive in sustaining the enthusiasm of their followers.

### Encourage the Combs

Nothing in recent years has exerted an influence upon American rural life equal to that of the 4-H club work among the boys and girls. Pig clubs, calf clubs, canning clubs all have numbered their members by thousands. It is unfortunate that bee clubs have not been encouraged to a greater extent than they have. The industry would find it to its advantage to offer the same opportunity to boys and girls interested in bees that is now available in other activities. In a few places bee clubs have been opened and some very encouraging results have followed. No industry can long prosper without the renewal that comes from the enthusiastic support of youth. Beekeeping owes much to its old men, and it is fortunate that age can find a solace and satisfaction in the apiary; but only the young can keep pace with changing conditions.

### About Hubam Clover

In view of the increasing popularity of sweet clover as a farm crop it is a bit surprising that one hears so little about Hubam. No plant in many years has received so much publicity and aroused such wide interest as did the annual sweet clover when Professor Hughes first called it to public attention.

It was thought that an annual sweet clover would fill an important place in the farm rotation. To be able to plant a legume with oats or other spring grain, which would make substantial growth and bloom after the removal of the principal crop was hailed as an invaluable

acquisition. In practice, however, most farmers seem to prefer the biennial form, and the annual is but little advertised now. One wonders what would happen if a perennial strain should be discovered in similar manner.

### The Races

Correspondence coming to the American Bee Journal indicates a never failing interest in new races of bees. Now that most of the races have been introduced and tried in this country there is no longer the incentive of fifty years ago when Benton, Jones and Charles Dadant were making trips abroad for the purpose of getting better stock. Beekeepers, however, still like to try the different races to see for themselves how the stocks behave.

Although the Cyprians are no longer offered by American queen breeders and it is doubtful whether pure stock is now available in America, we have frequent letters asking where they may be secured.

We have received a long letter from an enthusiastic reader who has tried Italians, Cyprians, Caucasians and Carniolans. He finds that each race has its good points and that no one race seems to suit him above all others. He "loves the Carniolans" but finds them cross when mixed with Italians. Caucasians work in cool weather and his largest production from a single colony was headed by a Caucasian queen.

The largest amount of brood he ever saw in one hive was seventeen Modified Dadant frames in a Cyprian colony. It would be interesting to know what portion of the seventeen frames was actually filled with brood. This certainly indicates that Cyprians are prolific layers.

He describes the Caucasians as most healthy race with mildest disposition.

It is interesting to note the variety of reports that come from different localities. Apparently the Caucasians and Carniolans are better suited to some northern regions or high altitudes than Italians; but, taking the country as a whole, the Italians have pleased a larger number of beekeepers over a wider range of country than has any other race.

### Who Spreads Disease?

It is the common thing to charge the spread of disease to careless amateurs and to bee trees. Box hives are made illegal in many states because of this attitude. The fact is, however, that in too many cases disease is spread far more by careless commercial beekeepers than by all the amateurs put together.

The writer of these paragraphs served several years as an inspector and in that time seldom found disease to be serious among bees in let-alone apiaries. One experience stands out clearly in memory where a large apiary was all but destroyed by disease. A careful check of the small back lot apiaries in the vicinity failed to disclose a single case of foulbrood.

There is no reason why bees in trees might not have foulbrood the same as bees in hives, but the fact is that they seldom do. In all the trees thus examined by the writer no foulbrood was found. The Michigan inspection service, which is one of the most thorough, reported no disease in trees for two years although a large number of such colonies were destroyed.

It seems to be human nature to want to blame others for our own carelessness and it has become a popular thing to blame all disease on the little beekeeper. One

has to attend a convention of bee men where disease is under discussion to hear such accusation.

Facts are stubborn things and they do not bear out this common complaint. Carelessness is found no more among the small beekeepers than among the large ones. This unfortunate attitude is discouraging to many persons who wish to keep only a few bees and who might be of real service to an industry whose prosperity depends greatly upon the enthusiasm of the amateur.

Once disease is contracted in a large apiary, our modern system of operations, with hundreds of supers removed for extraction and then returned indiscriminately to the apiary, is likely to spread it rapidly. Do not blame the little fellow too much.

## Bee Men Leave Fruit Districts

In the June Canadian Bee Journal, Philip Bishop of Greenwich, Nova Scotia, writes: "Many years of experience in attempting to keep bees in an intensive apple growing section, where dusting and spraying operations are done on a large scale, has proved to me that it cannot be done profitably."

Mr. Bishop is moving a distance of 180 miles to get away from the poison, just as many beekeepers in the apple districts of this country have done. Many others have reached the same conclusion as Mr. Bishop that commercial honey production cannot be conducted profitably in an important apple growing section.

In view of the present unsatisfactory conditions one cannot but wonder whether there is any relief for the beekeeper in fruit regions short of packing up and moving away.

## Top Entrances

Reports of success with outdoor wintering with top entrances in the severe climate of the Canadian prairie provinces give cause to consider whether this may not help toward the solution of the winter problem in cold regions.

The heavy winter packing case, sometimes called the "government" case, which was launched with so much acclaim a few years ago, has not proved generally satisfactory; and bee men are still seeking something better.

The top entrance idea has been slow to acquire favor as it was contrary to the general idea of heat conservation. Reports of near one hundred per cent success with outdoor wintering in regions where winters are very severe have served to increase confidence and to raise the question as to whether the top entrance might not be of more value than was at first apparent. At any rate, it appears to merit further trial.

## Cause of Losses

There has been much discussion of late concerning the cause of loss of package bees in transit. So many different things may cause loss that it is very difficult at times to determine whether the blame lies with the shipper or the carrier. Fortunately losses have been greatly reduced in recent years, so that most of the shipments go through safely to destination.

In one recent shipment of twenty packages all except one package finished their journey in very good condition. In this package about half of the bees were dead and the survivors were not in normal order. Just what had happened was not apparent. As far as could be seen it had received exactly the same treatment as all the others but certainly something serious had been wrong.

In view of the heavy losses in the early years of live bee shipping it is a bit surprising that breeders had the courage to persevere until the business became profitable. It took much experiment to learn the right kind of cage and the right kind of feed to use en route. It took time to educate the express messengers in the proper handling of the shipment, and it required patience to teach the beekeeper how to handle his bees after they were received.

Now that more than 90 per cent of package bees are handled successfully from shipment to installation, only one really serious problem remains—superseding of the queens. And that, we may confidently expect, will soon be understood.

## The "Soul" of Beekeeping

Miles E. Miller has an interesting article in the June issue of *Beekeepers Item* in which he says: "Beekeeping is in danger of losing its soul." He comments at length on the peculiar sentiment which has been associated with beekeeping since a very early time. This he says is being lost to us through the overstress of commercial aspects of beekeeping.

Those men who have been associated with the industry for twenty-five or thirty years have generally noticed the same thing. One who reads the magazines or attends the conventions cannot fail to notice how great the change has been. The attendance at meetings is usually much smaller. The amateur is not encouraged and finds but little interest in a program devoted entirely to commercial problems, such as eradication of disease and marketing of honey. In the old days much time was given to discussion of bee behavior and arguments often waxed warm. When the convention adjourned the bee men carried on the discussions, often far into the night, in hotel bedrooms.

The most interesting things in the old bee magazines are often found in the writings of men, like Doolittle, who discussed the soul of beekeeping. The new generation has produced but few men of this kind. Who of today fills the place in the affections of the beekeepers once held by Dr. Miller. He, who had but little to say about commercial aspects of beekeeping, devoted extensive comment to such things as had to do with the soul of beekeeping. When he died there was a feeling of personal loss in the homes of many hundreds of beekeepers such as will never be felt at the passing of any man whose interest is purely commercial.

It would be much to the advantage of the craft if beekeeping could rediscover its soul.

## Save the Soil

The greatest reservoir of wealth that we have—the most important resource of our country—is the soil. On it the generations yet unborn must depend for sustenance. Yet it is being wasted at a perilous rate. Over large areas in the Middle West, where drouth seared the face of the earth in 1934, the present season has brought floods which washed the top soil from uncounted thousands of acres of the richest land.

It is impossible to maintain a permanent agriculture in a region where the greater portion of the soil is in continuous cultivation. In such an area the wastage from washing in times of heavy rainfall offers a serious menace to the future of the human race. Scientists estimate that it requires three hundred years to build an inch of loam by the slow process by which nature works. In recent deluges single rains have carried off more than that amount of soil from many fields.

If the future of the nation's great grain belt is to be safeguarded, some means of stopping this wastage must be found. If the individual land owners remain blind to the consequences, authority will have to come in the name of public policy, to establish a system of farming to save the soil. Society has no other alternative since with the source of food destroyed, the race cannot long survive. This Midwestern region is new, most of it having been cultivated less than a century; yet the soil resources have been greatly depleted in some sections. Our descendants of a thousand years hence have the same claim upon the soil for food as have we and there is no justification for its depletion. Any system which fails to conserve the soil for the future must be abandoned.

The only solution is to devote larger areas to forage crops. Meadows and pastures prevent washing and blowing of soils and serve to insure abundance in the years ahead.





In such surroundings the tupelo grows; cypress trees standing in the water.

# What Part Does Soil Play in Honey Production?

By M. G. Dadant,  
Illinois.

**W**HY does buckwheat yield honey in New York and Pennsylvania and presumably not in Illinois? Is it climate alone? Or is it soil too? Then maybe some of our Illinois soils would produce good buckwheat crops, if we knew the type to use.

We know that cotton produces honey on the black lands but very little on clay or sand. Just what are the limitations as to soil?

Mr. Cale's experience with the Dadant bees in the drought apparently showed that sweet clover is much more dependable for honey production in the deep loess soils than in the shallower ones, even though both be equal in sweetness.

It was accordingly with a critical eye and a questioning tongue, that I approached this problem on my trip in February through the Atlantic coast states.

Our past bee literature contains meagre amounts of information on this subject which is of vital importance in selection of apiary locations and individual apiary sites. We should have not only the individual observations of our practical beekeepers, but we must have the problem attacked from a scientific standpoint or else we shall always be working more or less in riddles.

When I mentioned to Mr. Meacham of Raleigh the fact that cotton yields best in black soils, he was quick to add, that its yield was also affected by the amount of fertilizer applied.

Mr. R. W. Scott of Bolton, N. C., had told me that goldenrod yielded with him, only in the edge of the swamp, with nothing on the hills. This tallied up very nicely with a statement made to me later by Mr.

Garland Hardison of Plymouth, N. C., that it took not only black soil for the goldenrod, but it took also a burned over soil with a topsoil of ash.

I have always wondered why the word sourwood for a tree. Perhaps the sap is sour. But it seems to be true that it yields honey best if in a sour soil. This was reported to me by County Agent McLendon of Kenansville, N. C., who stated that sourwood yielded best in sandy or clay soil, and was substantiated by A. D. Hiatt of Virginia who said that clay soil was necessary.

Mr. R. W. Scott is positive that gallberry will not yield in the sand, but only in the swamp, and then only on the swamp edge. If one gets farther in where there is too much moisture, it fails. Undoubtedly a combination of both soil and moisture influence its yield.

The soybean is a much maligned plant because it apparently produces no honey. Yet I learned of it producing in North Carolina. County Agent McLendon reported it as an occasional producer. Probably here again it was a case of soil. Perhaps after all, we may find some honey from soybeans where grown under right conditions of soil and climate. Mr. Hardison, previously referred to, was positive that he got nothing from soybeans. Perhaps again, the wrong soil environment.

Another note which I got from Hardison was that while Tupelo grows in the water, a dry atmosphere at the time of bloom, increases the nectar flow greatly. Here we have probably, only climatic conditions to deal with.

Substantiation of sweet clover con-

ditions in Illinois seem to be borne out by the fact that sweet clover is a good yielder in the Shenandoah Valley of Virginia, whereas on the thinner and more acid soils farther south, it is seldom reported as a honey plant.

The solution of the problem of the effect of soil composition on nectar secretion is not so simple, however, as it would appear from the foregoing observations. Effect of climate and rainfall are so interrelated as to make the problem a complex one.

And yet, the problem is so vital not only to the beekeeper, but to the fruit and legume grower that it should meet with a responsive reception on the part of scientists and agriculturists as well as beekeepers.

If sweetclover secretes more nectar on certain types of soils, then it will produce better seed crops on such soils. Would not the same hold true of buckwheat?

We know that alfalfa yielded well in Illinois last year, chiefly because soil and climatic conditions were favorable. A resulting larger seed crop might be expected: and was obtained.

Here is a virgin field of vital importance to the beekeeper, and to agriculture in general.

## Sterilization of Honey

By Penn G. Snyder,  
Ohio.

Dr. Mart R. Steffen in the April American Bee Journal tells us we must sterilize all honey before we will be able to eradicate American

foulbrood. I do not wish to take issue with Dr. Steffen but I would like to learn how the honey is to be sterilized.

From experiments made some years ago by Dr. E. F. Phillips, who was then in charge of the apicultural work for the Federal government, we find it was necessary to boil the honey for at least twenty minutes before the *Bacillus larvae* spores were killed. Are we to boil our honey for twenty minutes? Who is to go into the home of the uninformed beekeeper and compel this work to be done? Who would want the honey after it was done?

By the time the question would be aired by the state legislature, by the courts, and by all the newspapers of the country, who would care to purchase, let alone eat, this pure, clean delicious honey, boiled or unboiled? We beekeepers know it is clean, pure, delicious and healthful for human consumption with or without bacilli. However we would have a beautiful job to convince the buying public of this after such a campaign of cleaning up which the sterilization of all honey would need.

Dr. Steffen tells us that our colonies are constantly being reinfected by honey from the partlyemptied containers thrown in refuse and dump piles near most cities and towns.

An investigation lately made under the direction of James I. Hambleton tells a different story. In this investigation there were 212 samples of honey purchased in the open market in as many different cities of the United States. These samples were tested for the spores of *Bacillus larvae* and only seventeen of them showed positive. In other words only seventeen samples out of the 212 tested were from apiaries which showed American foulbrood. The infected honey from these seventeen samples was then fed to seventeen healthy colonies in measured amounts and only one of this number developed the disease.

Dr. Steffen may be correct. I simply state my reaction to his article.

## Florida Loses M. C. Herndon

I am sorry to advise you of the death on June 19th of M. C. Herndon, Bristol, Florida. Mr. Herndon has been a beekeeper for thirty years and well known in this part of the country. His daughter, Mrs. T. B. Johnson of Bristol will take over his bees and try to keep on.

L. L. Ferrell, Secretary,  
Liberty County Beekeepers' Assn.,  
Florida.

## Producing Queen Cells

By J. H. Sturdevant,  
Nebraska.

While it is, perhaps, better to purchase queens from reliable queen breeders, it is not always possible to do so. We find we can produce within the ordinary colony, some very good queens at any time during warm weather. We select a queen of excellent quality as a mother or breeder queen and remove her to a safe nucleus. The queenless colony is brought to sufficient strength by doubling with additional colonies.

Our next step is to flush the hive with a thin, warm sugar syrup almost to the extent of drowning the bees. This is done at night to prevent robbing. From this flushing, we may

ordinarily expect a dozen or more choice cells. We may also expect a continuation of this procedure as long as it seems safe to leave the colony queenless. By adding a fresh frame of eggs occasionally and by removal of the well developed cells, also flushing with syrup, the process may be continued for some time.

Although drone brood is often developed quite early, it is not at all difficult to develop it in the same way and earlier than usual.

In every instance, the flow of syrup must be made to round out the flow of nectar. Quinby wrote: "To attempt to make swarms at any time when the bees are destroying drones would be extremely hazardous."

This difficulty, however, may be entirely eliminated by careful supply of syrup to replace the dearth of nectar.

## Just Two Swarms

I STARTED to keep bees five years ago and had a hard row of it but I intend to stay with them. I bought bees from a local beekeeper. I did not know there was a magazine or book printed about bees so I had to learn my own lessons.

Let me mention a few things that will help other young beekeepers buying bees. I have 108 colonies now which produced 11,000 pounds of honey in 1934. I belong to the State Association and I think it is the thing to do. We have many small beekeepers inclined to undersell the large producers. One here sells five-pound pails at 35 cents retail. I am getting 60 cents. Every beekeeper should take a good bee magazine.

I enclose two pictures, No. 1 an early swarm that produced 120 pounds of honey on foundation; No. 2, hived the 20th of June, put out 104 sections of basswood honey.

Frank P. Reith,  
Wisconsin.



# Lives of Famous Beekeepers

By Kent L. Pellett,  
Iowa.



## ELISHA GALLUP, 1820-1903.

You may call Gallup the new beginner's friend, and hit it right every time. Just such a blunt, outspoken putty-head is wanted to write for the Bee Journal.—Elisha Gallup in *American Bee Journal*, 1868.

IN 1870, the *Illustrated Bee Journal* published a series of biographies of the prominent beekeepers. Elisha Gallup, of Iowa, at the behest of the editor wrote a bit of his life history which appeared together with his picture in the March issue.

Editor N. C. Mitchell said that he printed extra copies of the paper for the occasion. But so many people wrote and asked for the picture of Gallup, and the story about Gallup, that the supply soon was gone. And still the letters came. The bee men all wanted to read about Gallup, the famous Iowa bee writer. So the editor published his story again, in the July issue.

The interest his readers showed in Gallup gave to Editor Mitchell, who was also an Indiana bee supply dealer, an idea. Gallup surely had a hold on the beekeepers. Mitchell wrote him: Why not, he asked, write exclusively for the *Illustrated Bee Journal*? He would be very glad to pay Gallup a handsome bonus if he would do so. Mitchell had a patented hive on the market and he suggested that Gallup might be very glad to boost this hive in his writings.

Another editor, H. A. King of the *Beekeepers' Magazine* in New York City, also saw the influence of this Iowa farmer. He, too, had a hive for sale, the American hive. He dispatched a letter offering Gallup a tidy sum if he would write only for the *Beekeepers' Magazine* and mention the American hive.

Gallup told about it later. "Both King and Mitchell tried their soft soap on a man about my size and build," he wrote, "but their pipes failed to connect."

He did not take the trouble to try out the hive of either of these men. Instead, he began and carried on for several months an unpleasant attack against the general lot of hive vendors. "We do not need another hive patent in a thousand years," he said.

All the various contraptions on the market were rubbish. "I give Mr. Langstroth the credit of introducing the movable frame hive, and he ought to be paid for it. Let all the other hive men whistle. Don't give them your money for nothing." Mitchell and King were uncomfortably astonished at this outcome of their advances. And not long afterward King was the defendant in a suit Langstroth brought against him for infringement of patent.

Samuel Wagner, the scholarly old German who published the *American Bee Journal*, came to Gallup with a different story. He had no hive or supplies to blow the horn for, but in his quiet way he was supporting Reverend Langstroth as being the true inventor of the movable frame hive, and he was trying to publish a journal that would succeed on its own merit. But he had lost nearly \$1,500 in the venture, he said, and he felt he would have to discontinue it.

The hard-headed Iowan was not so resigned, however. He had talked the matter over at a beekeepers' convention at Indianapolis. Other subscribers also had heard that the *Journal* was in financial difficulties. The trouble was, Gallup said, that a large proportion of the beekeepers, even those who attended the conventions, never had heard of the *American Bee Journal* or of the Langstroth hive.

Gallup wrote Wagner, "Now, I do not wish to advise, but if you can hold on until after the Cincinnati convention, we, the old subscribers, are bound to make a tremendous effort to increase your subscription list, and place the 'Old Reliable' on a firmer foundation."

Wagner held on, and Gallup, who had refused to go drumming for the *Illustrated Bee Journal* or the *Beekeepers' Magazine*, went drumming for the modest editor of the *American Bee Journal* at the Cincinnati convention—without pay. He secur-



ed many subscribers, got the names of hundreds of other beekeepers, and sample copies were sent to them. Some time later Samuel Wagner wrote him a letter, expressing his thanks. The *Journal* had paid all its losses and more too, he said. It now was standing on its own feet.

The *American Bee Journal* continued. Gallup never received any money for the scores of articles from his pen that found place in its pages. He took his pay in the thanks of the old bank cashier who tried, through study and effort, to do something for beekeeping. Gallup wrote for the *Journal* for thirty-five years, and recorded long afterward in its pages the demise of the magazines of both King and Mitchell. "Both journals went where the woodbine twineth, as they deserved," he said.

He belabored the peddlers of patent hives, while continually upholding Father Langstroth. He pointed out that he himself did not use the exact Langstroth hive, since he did not think the frames deep enough. He used a hive twelve inches square by eighteen inches long. It would accommodate thirteen frames eleven inches long and ten inches deep. But it was the Langstroth hive all the same, and covered by the Langstroth patent.

He was preaching strong colonies in large hives. "Everybody knows a small swarm in a large hive is good for nothing, and if put into a small hive that you can not build up to the standard, it is the same." In 1871 he suddenly announced in the *Journal* that he now had a new hive of his own, with twenty-six frames, not patented. He jestingly called the hive his "Youreka, back action, extractor, reversible, revolvable, movable comb, twin bee hive," and said he would send its description to anybody who would pay him a dollar.

The readers of the *Journal* got up in arms. Some of them might have been duped by the patent hive men, but they did not care to pay Gallup

(Please turn to page 391)



# The Effect of Yield and Management on the Net Returns from Honey

By G. H. Cale,  
Illinois.

CHANGING conditions have made a vast difference in beekeeping today compared with beekeeping yesterday. Our senior editor, C. P. Dadant, is known not only because of his ability as an educator and as a leader but because he knows from practical experience how to keep bees. Almost sixty years of his life were spent among bees. His colonies numbered from a small beginning to three or four hundred at the time he gave up to his sons, so he surely would be called a practical beekeeper.

Yet his beekeeping was a different adventure from that we know today. I was interested in an article in a past issue of the "Journal" which discussed comparative advantages of the horse and wagon and of the bicycle in visiting outyards. Doesn't that sound ridiculous?

We now think in terms of the automobile and a hard or improved road. Mr. Dadant used to get up early in the morning, harness the horse to a wagon, put in his extracting equipment and travel until noon. When he reached the apiary twenty miles south of Hamilton, the equipment was set up in the kitchen of the farm house on the land where the bees were kept.

Extracting would begin the following morning and after a good day's work in which the farm owner helped, Mr. Dadant would go to bed, get up again the next day as usual until the crop was harvested. Then there was the job of getting the honey back to town over roads which when wet would be difficult to travel and yet he managed three or four hundred colonies for extracted honey production under these conditions.

How different it is today! We get up later, perhaps six o'clock (Mr. Dadant was up by three or four o'clock). We start a high powered truck with a ton or more capacity, travel on a hard road at a speed of forty-five miles an hour to an apiary possibly a hundred miles away where we put in a day's work and return home.

When honey is ready, the apiary twenty-five or thirty miles away is at the back door. The honey is loaded by means of modern methods that make the work quick and is carried to a central extracting house which is in reality a factory for handling and packing the honey, with cement floors, hot water, power machines

and other mechanical devices to make the work fast and accurate.

So beekeeping today means the outlay of considerable capital. The beekeeper who keeps bees because he loves to do so, of course, will not be so much concerned about his capital investment as will the man who looks to the bees for his livelihood, because his increase will come so gradually that other occupations will have maintained him during the period of development and his investment will have increased largely without much concern.

Eventually, however, if one enters the commercial class, all the problems of production become of keen interest, especially the prices that are received for honey and the cost at which honey is produced. These are the important items.

It is quite apparent to those who have watched the trend of honey markets, that a level is being established for the average price of honey over a period of years. I believe that level to be somewhere between 5 and 7 cents a pound net to the producer in carlots. This means that a pound of honey when sold in this way will put into the producers' hands anywhere from 5 to 7 cents, cans and cases and freight paid. Out of this must come the cost of production to get the actual net per pound. With the present cost of production, the net price of 5 cents in carlots is close to the line of no profit as far as we have been able to go with modern methods and modern equipment.

Just what can the commercial beekeeper with a hundred or more colonies expect today as a net profit from honey production at this assumed ten-year average price level?

Just how much does it cost to produce a pound of honey? Economic surveys under the direction of the Bureau of Entomology, Pacific Coast Bee Culture Laboratory indicate the cost per pound varies for extracted honey from 2.6 cents a pound to 9 cents a pound with an average of 5.7 cents a pound. It was found that the cost was influenced greatly by the colony yield. When the average per colony was under thirty pounds, the cost per pound was 18.9 cents. When the average per colony was ninety pounds or more, the average cost per pound was 4 cents or less. Costs include interest, depreciation,

apiary rent, labor, materials, use of trucks and miscellaneous expenses. From the cost figures of 2.6 to 9 cents a pound, it will be seen that with a ten year average net price level in carlots of 5 to 7 cents, the profit may be all the way from a loss of 4 cents to not over 4½ cents net per pound.

This brings uppermost the big problem in modern honey production, that of producing the most honey at the least possible expense. This leads right into modern methods of going about the job. It covers everything from extracting, honey house, truck, management, the kind of queens and the kind of hives. The matter of cutting costs is becoming a prime objective and is the answer to the question of whether bees shall be kept or not. After all, it depends on whether we are able to make a living from the bees we do keep.

The small producer taking care of his bees in spare time, selling honey for what he can get for it and putting the money aside for various purposes, does not feel this problem as keenly as the man to whom the money from the sale of honey buys shoes, clothing, pays rent and living expenses. There is a gulf between the two.

Frequently the small producer has more to do with the low price of retail honey than the larger producer. Not that the table is never reversed; it is. But in my experience, there is more trouble from low price from small crops moved aimlessly than from regular production and distribution from commercial sources.

In our experience, these figures from the Oregon studies are about right. It must be admitted likewise that yield does influence cost greatly. A low yield means expensive honey and so the effort to find a location where yields will be increased to one hundred pounds or more to the colony each year for a ten year period is the constant aim of the commercial beekeeper. That is a prime requirement—one hundred pounds to the colony each year for a ten year period.

Certainly many locations that were formerly thought to be good must now be discounted. It is not enough to have a few large yielding years in a ten year stretch but one year after another must come near or above the average to make the commercial location a sustaining one. A few years

of low production and high cost will wipe out reserves so that the location, even though it may meet the requirements of one hundred pounds a year over the long stretch, is not a desirable one for commercial honey production. A location where the average is nearer one hundred pounds a year every year is much the best.

Where are there such locations? There are only a few commercial beekeeping locations measured by this standard in the United States. At Hamilton, our location in 1927 produced 210 pounds to the colony. In 1916 it produced 240 pounds to the colony and yet in that ten-year interval there were two or three years when the yield was under 50 pounds and one year I well remember when the total average production for the year was 21 pounds to the colony with a seven hundred-colony outfit. That was a year of disaster in our honey production. And it is doubtful if the losses occurring then and in other poor years have ever been made up by the good years.

Therefore, we have been forced to the conclusion at Hamilton that it is not a commercial location and that bees cannot be kept there except as a sideline in a small way in spare time. This has made it necessary for us to seek a way out. The result has been a study of soil and plant conditions to find locations not too far away that will give what a commercial average demands.

It is evident that sweet clover has taken the place of white Dutch clover as an Illinois honey plant. Sweet clover in Illinois is adopted as a major soil improving legume. Consequently farmers undertake to grow more and more of it. At first it was turned under green, but now it is more often left to bear seed and to make pasture and is rotated on many farms, so that Illinois is beginning a new era in honey production, entirely different from the white Dutch clover era of the past.

But it has become apparent also that this new major honey plant behaves differently on soils of various types. On a rich loess or windblown clay soil found in parts of Illinois and Iowa, it is at its best. It will thrive there with the least moisture and do well under most conditions. Therefore, farmers on such soils tend to grow more sweet clover than in many other places. Also the waste land and volunteer growth is more extensive. There are other soils, too, on which sweet clover does equally well. Loess soil is given just as an illustration that soil is an important factor in determining location.

Now the remarkable thing is that the bees will frequently fail to gather a crop, even surrounded with an abundant acreage of sweet clover. This is found to be true in many places. In Minnesota this year beekeepers moved apiaries out of

drought areas into new locations where sweet clover had had abundant rainfall, only to have bees gather a small crop. Circumstances of this kind are no doubt owing to soil conditions.

Last year in our own case, we moved bees a hundred miles to Illinois loess or windblown clay soil and produced 140 pound average while local bees left behind in our own yards produced only about 50 pounds to the colony.

An interesting comparison of yields on soils of different kinds was shown in two of the yards in these temporary locations. One was on what is called on the soil map old bottom land. The other seven and one-half miles away was on hilly windblown sweet loess soil. The yield for the loess was 140 pounds to the colony; for the bottom land 75 pounds to the colony. So the matter of soil is as important as plant abundance and will have to be taken into consideration in choosing a location.

We are also finding it is not necessary to depend entirely on one plant. Sometimes within local moving distance, there may be other sources which become available when the flow from a previous source has finished. For instance last year we moved three hundred colonies, after the sweet clover flow was over and the honey extracted, to bottom lands in the Mississippi Valley where a surplus averaging fifty pounds to the colony was obtained from fall flowers—heartsease, Spanish needle and aster. We have never seen aster yield as it did last year.

So the matter of location introduces the element of moving as it has never existed before. We hear every year, beekeepers telling how they pick up bees from one place, move them to another where conditions are more favorable.

This brings up the question of whether or not the bees may be located so that seasonal necessities are met by local conditions requiring several moves in the year to accomplish the objects of management.

For instance, in our own case we have a wonderful spring location. About April 24 red bud and early fruit bloom bring a minor honeyflow; and it is possible to requeen, examine colonies, divide them and so on. We can do a lot of work under these conditions that could not be done out where the sweet clover is.

Later these bees are moved to producing locations; only prime colonies are moved; no duds, no colonies with poor queens, none suspicious of disease. Only the very best colonies are placed on the trucks and moved to the honeyflow. Then if necessary they are moved again but finally brought back for winter where they will be close by and where the costs are less.

Remember that one way to get away from the high cost per pound

is to secure larger yields per colony. That's just what this plan of beekeeping aims to do. I was interested the other day in receiving a set of questions from a beekeeper in Nebraska. These questions were to be answered by students in a high school. They had been answered by the beekeeper first. One of the questions was: "What is the average crop to be expected per colony?" The answer was "Two hundred pounds."

Think of that — two hundred pounds per colony! At a price of 5 cents net, that means \$10 a colony and a probable cost of production of about 2 cents so that the possible actual net would be between 3 and 4 cents per pound or \$6 to \$8 per colony. Not bad, is it?

But how many two hundred pound locations are there? There are very few. Yet it is possible to average between 150 and 200 pounds by moving the bees and watching the soil and plants and crop conditions. Beekeeping thus becomes somewhat of a nomadic occupation. Beekeepers try every way they can to get more honey at less cost.

I think it will be found that with modern methods as satisfactory a livelihood may be had from bees as from any other agricultural occupation. However, it is quite evident that bees cannot be kept as they have been in the past. The beekeeper must be willing to work hard, to keep busy and to watch his work closely.

## Boys' Bee Club

Eighteen boys in the William Chrisman High School at Independence, Missouri, spent the past winter learning the fundamentals of bee culture. They are members of one of the 4-H bee clubs of the country and call themselves the Bee Liners. They have been of great aid to orchardists this year in providing bees for pollination of fruit blossoms and are planning numerous projects for this summer.

This unusual 4-H club was organized last year by George Berkemeier of the agricultural department of the school. There were eight members. This year the membership jumped to eighteen. Each boy is required to have a hive of bees. A few boys got package bees. Others bought hives and caught their bees, while still others bought their hives and bees outright. Several of the members this year had as many as a half dozen hives.

Regular meetings are conducted at the school during the winter when subjects such as honeyflow, swarming and feeding were studied under Mr. Berkemeier and members of the county Farm Bureau. One interesting meeting was a demonstration of the method of embedding wires in foundation with electricity. During

the summer the boys hold regular meetings when they study beekeeping problems.

The Bee Liners are planning to co-operate with the Heart of America Beekeepers' Association this summer by planting various honey crops to determine the best bee pastures for Missouri. The boys plan to plant vetch, sweet clover, white clover, buckwheat, heartsease, etc. They will determine which gives the best honey-flow and which has the longest duration. Hives of equal size will be placed in the various pastures and the best pastures will be determined later by weighing the hives.

Last year the Bee Liners took second place in the state meet at Columbia which included demonstrations by all types of 4-H clubs. The team representing the Bee Liners was composed of George LaRock, president of the club last year, and Frank Wilson. John Garrison is president of the group this year.

This club is growing rapidly and the members are enthusiastic about their work. Mr. Berkemeier declares that all of them will become A1 beekeepers if they continue as they are now.

James A. Southern,  
Missouri.

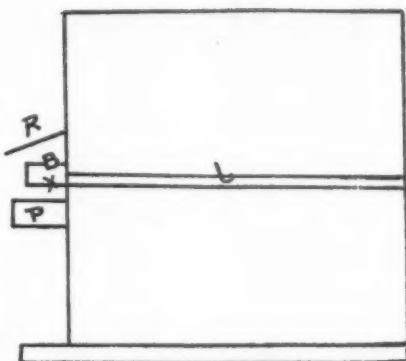
## Novel Way to Gather Pollen for Hay Fever

By Charles E. Phillips,  
Ontario.

Provide an entrance in front, between the food chamber or upper hive body and the lower brood nest, by inserting strips of wood about the width of a lath between the two bodies at the sides and back, leaving the front open and reduced as you wish. This front opening then forms a middle entrance. The lower entrance may be gradually closed, later, if you wish.

Now cut a section of wire queen excluder about five inches wide and the length of the middle entrance. This is to form the floor of the entrance and it is held in place on the hive with wooden blocks tacked to the hive body. When in position it should be at the lower edge of the middle entrance space, even with the top edge of the lower hive body, and extending directly outward for its whole length, just like a shelf. As just said, it is the floor of the entrance.

To form a cover box for the excluder so the bees will be compelled to seek entrance from the under side of the excluder floor, cut a piece of galvanized metal somewhat longer and somewhat wider than the excluder floor. Cut corner pieces out so the metal can be formed into a three-sided box, without cover, which



Hay fever pollen gatherer. R - Shelter board. B - Upside down metal box. X - Excluder entrance. P - Pollen box. L - Lath between bodies.

will fit snugly, upside down, over the excluder floor and so force the bees to seek entrance underneath. Place a long metal pan under the whole thing to catch the pollen and the affair is ready.

We can now yank the pollen off the bees' legs. When they crawl up through the excluder the pollen drops off into the pan below and may be periodically collected. A piece of galvanized iron, fastened above the whole contrivance, slanted like a roof, will keep off moisture and the pollen will be dry when gathered.

The pollen may be packed in sterilized glass by tamping slightly and covered with honey as you would use paraffin to cover jelly. If the pollen trap is put on in spring and left until fall you will have some of every kind of pollen and the whole collection may be mixed thoroughly.

Hay fever victims now have a possible immunizing material. My son had hay fever for the first time last fall and I am certainly going to try to immunize him and I would like to hear what results others may have had with this method.

## Higher Prices for Honey Thru Cooperation

It is impossible to control the price of honey altogether, although if we beekeepers would get together and agree on a price and keep it there, "no price cutting," we would get much more for our honey.

Low prices began with irresponsible producers, who either through ignorance, jealousy or need of cash established some of these low prices. I suggest we establish an organization satisfactorily to combat cut-throat practices. We should establish fair prices at which honey should be sold.

Of course, at times most of us beekeepers have to sell the honey because we need the cash; but if we would notify some other producer, he would have a chance to buy this surplus honey, thus partially control-

ling the price. Instead, he cuts prices, acting as though we were his enemy.

As I said in the June issue, the channels of trade can be kept open only by keeping prices in line with products which are in competition. However, honey is the same price as corn syrup. We producers know it should be much higher than that.

Some producers will disagree on the subject. Some would think that the next spring the market would be demoralized in a mad rush to unload their honey. My honest opinion is that it wouldn't make any difference in the sales. Of course, if we would put the price too high, it would make a great deal of difference.

If we would do more advertising, it would help greatly in the sale of honey.

If we would grade our honey by the flavor and color, we could sell more honey at better prices. Vegetables, fruit, meats are graded by the kind and flavor, not just vegetables, because people want to know whether they are getting beets, potatoes, cabbage or carrots, etc. Why shouldn't honey be given its rightful place?

The other day a woman came into the store to buy some honey. I let her look at it and taste it as we are accustomed to do so the people won't be disappointed with their purchase when they get home.

This woman first remarked that it had a funny color; then she said it also had a peculiar taste, and that it wasn't the kind she was in the habit of buying. She didn't believe she wanted any. This honey was fairly dark amber color, so I opened a pail of light amber honey. She tasted it, she bought a ten pound pail. Why? Because she liked the taste better. Therefore, if we would grade our honey by the color and flavor, the honey would sell much better and at a higher price. People are forced to buy one color one time, another color another time, consequently they don't buy as much honey as they would otherwise, because people want to know what they are buying.

E. F. Strayer,  
Nebraska.

## 1934 Sees Alfalfa Honey in the East

Alfalfa honey is becoming more common in southeastern Pennsylvania. County agents and others have influenced farmers to plant more and more alfalfa, and as a result the beekeepers are benefiting. Mr. Haley, who has his bees at Churchville, Pa., harvested more than 400 pounds of almost pure alfalfa extracted honey from five colonies in 1934.

S. F. Haxton,  
Pennsylvania.





Henry Brown today with some of his "stingless" bees.

# To the Soviets and Back

By Henry Brown,  
New Jersey.



Henry Brown is not his original name as he used to be in the navy of the Czar. However, he is now an American citizen, proud of it, and originator of those "stingless" bees lately featured in eastern papers. (Really not stingless; just gentle.)

I HAD the pleasure of meeting Mr. M. G. Dadant at the meeting of New Jersey Beekeepers' Association. At that time he invited me to write about my experiences in Europe.

I took with me four colonies of my docile strain of bees and ten untested queens in cages. Two days before I sailed, the four colonies were lifted from their places so as to lose the field bees. This left only the young bees and capped brood in the hive. In the evening of July 25, I took the bees in the car and started for New York. At noon of July 26, I was on board the "Pulaski." It was extremely hot and my bees in the cabin became restless. I hunted up the captain and explained my predicament. He allowed me to put the bees up in the log box (a place above the command bridge). To two of the colonies I gave fresh water, and left the other two without any for the whole voyage. I followed the same method with the queens. To five of them I now and then gave a drop of water. The other five were left without any. I had to keep the queens in my pocket during the whole trip because the rooms were dusted each day with a disinfectant. This would have killed the queens if left there.

On August 5, the boat docked in Copenhagen. As there wasn't any visa required, I ventured ashore. The Danish bees were very busy at the time gathering nectar from the California Privet.

Copenhagen was a very pretty place. I think every Dane rode a bicycle. There were thousands of them parked in front of the post office in a rack.

At the market place, I found sweet clover honey for sale which most likely was American. I inquired for a taxi and found a fellow who spoke English. I asked if he knew any beekeepers in the suburbs of Copenhagen. He answered in the affirmative and took me to her. She had fourteen American manufactured hives containing a mighty vicious strain of black bees. This was my initiation to Denmark.

I found out that she bought these hives in England and had paid four kronen for each. Four kronen was equal to one dollar in American money. I was rather dumbstruck because I had to pay quite a sum for one of my hives right here in America. The same is also true of American makes of automobiles. They can be bought for about \$125 less in any European city.

I returned to the ship and continued on my trip. The next stop was Gdnija, in Poland.

As this was the first trip for a Polish liner, we had quite a reception. The bees were photographed and there was quite a write-up in the papers.

Our next stop was the free city of Danzig. This was my last stop from the boat. At this place I saw a few Berlephs hives and many more straw skeps. Received the impression that these people were far behind in apiculture.

From this point I continued my trip by rail. The train traveled from Danzig to Germany. Here they required a doctor's certificate for the bees which I had. Then we went on through a part of Poland, then Prus-

sia, Lithuania, and finally to Latvia which was my home twenty-two years before.

I went to the Latvian Beekeeping Experimental Station at Auce. The bees were released that night after being imprisoned for twelve days. I came to Latvia at just the right time because the next morning there was a large gathering of beekeepers.

They insisted that I show them the American bees. It rained very hard and I opened the hive without smoker or veil. No one got stung.

The two hives that received water during the voyage developed a slight case of dysentery. There was neither brood nor eggs. The two hives that did not receive water remained in good condition. There was some brood in every stage. The same is also true of the queens. Water seems to be detrimental to bees while traveling.

A very capable man is in charge of the Latvian Experimental Station. American methods are followed in beekeeping. Dadant hives are the standard ones used in this part of the country. I visited sixty-four apiaries and found from two to thirty hives to an apiary.

Their main honeyflows are white clover and basswood and during August they gather a large crop from heather which grows along the Baltic Sea.

Black bees are the predominating race but the station claims that Italians will do just as well.

It is interesting to observe that the Dadant deep frames are free from drone cells in the corners which is not the case in New Jersey. Their



Up a tree in Soviet woods to see what we can see.

foundations are mostly home-made but the bees prefer a Dadant foundation as you can readily see from the picture.

The foundation is installed during the winter so it becomes thoroughly frozen. This prevents sagging.

The Latvian queen introducing method is considered 100 per cent safe. I have tried it in my own apiary. This is the method: Catch the queen. Shake all the bees from the comb in front of an empty hive which was set in the old place. Wait until the bees begin to search for their queen and brood. In other words—as the queen breeder would say—when the colony is ready for grafted cells. Put the brood and hive in its previous place and dump the bees in front of it. When they begin to march in—release your new queen.

It is known that beekeeping has been practiced in Latvia since 1200 A. D. The first hives were a cavity in a tree in the woods. About the 14th century they began to domesticate the bees because that was the start of holding of private properties. They cut the tree down to a log hive and took it home. In later years it was found that when the log was laid on the side, the bees swarmed every third year about the time that the queen failed.

In the upright hives the first swarm built more drone cells and was apt to swarm several times each year.

When I was a youngster, I kept a swarm of Caucasian bees in an upright log hive. Each fall they closed



Peculiar tool used in Latvia.

all the entrances at the top and left the bottom open. This indicated that the bees prefer their entrances at the bottom.

In my next article, I will tell of my observations in Russia and how I developed a docile strain of bees.

## Why Keep the Old Queen?

By Frederick Garman,  
Pennsylvania.

The article "Disease and Wintering" by Chas. Kruse in a series of articles on comb honey production recommends the method of shaking for American foulbrood, allowing only two days between the first and the second shaking. No attempt is made to requeen. The beekeeper is in fact cautioned to see that the queen is not accidentally lost.

If this course is followed, there is not much wonder that many are strongly in favor of burning. In the case of Febrin in silk worms, Louis Pasteur discovered that even the egg may contain spores of the bacillus causing the disease. Frank R. Cheshire in "Bees and Beekeeping, Scientific and Practical" in the case of European foulbrood states that queens showed the presence of bacillus (Alvei) which we now know to be either a form of the bacillus causing Euro-



The upright log gum, a swarm producer.

pean foulbrood or an associated bacillus.

Sturtevant, in his study of American foulbrood in package bees, found that packages from infested hives which had not been at least four days on the road and started on foundation, became again diseased in enough cases to make the shipment of packages from such colonies dangerous.

The best technique yet developed, to my mind, to transfer diseased colonies has been used many times by E. J. Anderson of the Pennsylvania State College, and is fully described by W. E. Stepp of Kansas in the April 1934 Journal, page 163 under "New Way to Treat Foulbrood." The method is illustrated by a picture, and consists briefly of placing the new hive above and back of the old one containing the diseased colony, drawing the cover of the old hive forward, and chasing the bees up into the new hive by puffing plenty of smoke into the entrance of the old one.

One important step, however, has been omitted. Since the queen may carry the disease, it is quite obvious that a queen excluder must be placed on the entrance of the new hive and as soon as the queen comes up for air, she must be destroyed. After four days, the process is repeated using full sheets of foundation and giving a new young queen. The interval of four days is all important because diseased honey must be consumed. Two day interval is not safe. Close the old hive and supers including top and bottom and remove the whole outfit to a cellar or closed building.

# Making Rapid Increase

By Frank C. Pellett,  
Iowa.

**T**HE FOLLOWING is an account of an experiment with fourteen colonies which was designed to test the amount of increase and honey that could be secured in two seasons. Without at any time running the risk of weakening the parent colonies to the danger point in making increase, the first season the colonies were divided as often as conservative methods would permit. The second season the colonies were pushed for honey production. Swarming was prevented as far as possible and no artificial divisions were made. At the close of the second season we had increased to 67 colonies in good condition for winter, and at pre-war prices, sold \$700 worth of honey. In addition to the increase and honey above mentioned we had 180 or more sets of new combs drawn, which at \$1 each, would be worth \$180. This is about half the value at which newly drawn combs in full depth extracting frames are usually estimated. We also had reserved about \$100 worth of honey, which had not been extracted, for use in starting new colonies the following season. The total net return, in addition to the increase in bees, was then nearly one thousand dollars from 14 colonies in two years.

Right here it should be stated that such a result was possible only because there happened to be two very favorable seasons together. During the first season of the experiment, there was an almost continuous honeyflow, which made it easy to increase rapidly. Had it been known in the beginning that the season would prove so extremely favorable, it would have been possible to make a much larger increase in the number of colonies, but we did not at any time increase beyond the point of safety, in case the honeyflow ceased abruptly. The second season proved to be one of the best for several years, so that the crop was much above the average, and very favorable for the success of the experiment. Given the same favorable advantages, a beginner could hardly expect to even approximate such a result, although an expert beekeeper might make a better showing. This is not written with any intention of claiming any remarkable result, but rather to show the possibilities of beekeeping when proper attention and favorable conditions are combined.

## Making Increase

The bees were left in their packing cases until after fruit bloom was over in May. The colonies had been wintered in two-story hives in packing cases. The two-story hives gave them plenty of room for spring brood rearing and the packing cases furnished them with good protection against the changing weather of March and April. Although the weather was not as warm as it is most years at the season, the packing material around the hives made it possible for the bees to build up rapidly and the hives were soon full of brood and honey. As soon as the weather seemed warm enough to make it advisable, queen rearing operations were started, so that we were prepared to provide each new colony with a queen. Whenever a colony became strong enough so that it could be divided without leaving it too weak, part of the sealed brood was taken away and placed on a new stand and given a sealed queen cell. If the colony had ten frames of brood it seemed safe to take four frames with the adhering bees and use them to start a new colony. By the time the queen had emerged and began to lay there would be a nice cluster of bees and the colony would build up rapidly. If the weather continues favorable it is an easy matter to build up a nucleus of only two frames, but if there is a sudden check of the honeyflow such weak divisions will require a lot of nursing to get them through, and it may easily happen that the beekeeper will lose much of his newly made increase. By taking only such an amount of brood as a colony can spare without greatly weakening it, and if necessary combining the available brood from two or more hives, to make a nucleus strong enough to weather unfavorable conditions, one need run little risk of failure. Later in the season, when we did not wish to lose the time necessary to wait for the emergence of queens from sealed cells, and the delay in mating, we secured a supply of laying queens. The queens were introduced immediately when a division was made, and would be laying in a very short time. The hives were placed in pairs on cement stands, where they were expected to remain permanently. Ten-frame hives were used, for the most part, and in addition to the frames of brood taken

from the parent hives the remaining space would be filled with drawn combs, so that the bees were not taxed to build combs when the colony was weak. Sometimes it became necessary to give full sheets of foundation because of a lack of a sufficient supply of drawn combs, but generally we succeeded in getting combs drawn above the parent colonies.

At the close of the first season we had 59 strong colonies from the original 14, and at no time during the season had we weakened the colonies seriously. In addition to the increase of 45 colonies we secured several hundred pounds of honey and something like forty sets of newly-drawn combs.

## The Second Season

Since it was honey we wanted, instead of bees, the second season, every effort was put forth to make the colonies as strong as possible and to keep them from swarming. While it is impossible to entirely control natural swarming in large apiaries, it is considered as undesirable. If some increase is desired, it is much better to break up a few colonies and make as many as possible from them, using the poorest colonies for that purpose and giving queens from the best stock. Strong colonies are the ones that harvest the big crops and for this reason the medium or poor colonies are the ones to use for increase. It would be a mistake, of course, to breed the queens from these inferior stocks. The queens should be reared from the colonies producing the largest amount of honey.

However, no attempt was made to get increase the second year. The close of the season found our 59 colonies increased by natural swarms to 67.

The bees were wintered as before and permitted to build up in the same manner during early spring. At the close of fruit bloom many of the colonies were getting crowded and required some attention to prevent them from swarming. When the colonies had become strong, each was examined carefully, and if there was any indication of a desire to swarm, such as newly-started queen cells, the queen was removed with a frame of brood and placed in a new hive. A second frame containing eggs or newly-hatched larvae was also re-



moved and placed beside the one on which the queen was found. The rest of the space was filled with drawn combs or full sheets of foundation. The hive body containing the queen was then placed in the same position where the hive had been and a queen excluder placed over it. The old hive was then placed directly over it so that the bees could pass freely up and down from the old brood nest to the new, but the queen was compelled to remain below, where the supply of empty combs gave her an abundance of room to lay. A few days later, it became necessary to remove all queen cells from the upper story to prevent swarming.

A sudden drop in temperature, just after lifting the brood above, resulted disastrously for a few colonies, since the bees went into the upper story and left the queen and her newly-laid eggs without suitable protection below. There is this element of danger when it is done too early in the season. A better plan is to place a super of empty combs directly above and to let the queen begin laying in this, and later set it below with an excluder between the bodies, if the weather is still cold.

When the honeyflow began in earnest, the supers of full depth combs were set on the hives as fast as the bees were ready for them. As soon as they showed the least signs of crowding, another super was placed, so that there was never lack of room in which to store. No effort was made to extract any of the honey until the clover flow was nearly over. At that time nearly all the colonies were four stories high, many were five stories, and the best were six stories high, and all were nearly full of brood and honey from top to bottom. The stronger colonies occupied two stories with brood and had four supers full of honey. About 140 sets of new combs were drawn the second season. Getting new combs drawn during a heavy honeyflow, such as this proved to be, is expensive, and had we been supplied with sufficient combs to take care of the honey during the height of the season, our showing would have been still better.

When the clover flow was nearing a close, the surplus was extracted and supers replaced on the hives. The clover honey is of better quality than the fall honey and it is seldom advisable to mix it. About five thousand pounds of clover honey was taken and something more than a thousand pounds of fall honey, making more than three tons in all. It found a ready sale at 12½ cents. As already stated, something like half a ton was left in the combs for use in starting new colonies the following season, so that, including that taken the first season (exact figures as to amount were lost), more than \$800 worth of honey was produced during the two summers, besides a

sufficient quantity to winter the bees. Nearly 100 pounds of wax was also secured.

It will be noted that no account of expense of supplies is mentioned here. Most of the supplies were for hives, foundation and fixtures to be used as a permanent investment, and the increase in the number of colonies of bees would far outweigh such incidental supplies as containers, labels, etc.

## Organization in Michigan in 1934

By A. G. Woodman,  
Michigan.

The enormous advantage that is gained when price cutting is done away with was ably demonstrated last season when the Michigan honey producers got together on the honey selling proposition and decided to work for the common good. Early in 1934 Professor R. H. Kelty conceived the idea of better organizing Michigan beekeepers into county, district and state associations. The state was arbitrarily divided into five districts in which were included, besides the many smaller operators, between four and five thousand commercial beekeepers with a minimum of ten colonies each. Professor Kelty's aims were to build a strong state association, to create interest in American Honey Institute and, by stimulating a feeling of mutual benefit and progress (and here appeared the most striking results), to stabilize Michigan honey markets.

Retail, wholesale, bulk quantity and carlot prices were recommended by the association and were quite generally adhered to. (The cut rate seller, because of the many county and district groups all recommending prices and promoting cooperation, was in great disfavor with his fellow beekeepers.) Howard Potter and other large producers admit that they secured at least one cent a pound more than they had expected to get. Some Michigan beekeepers selling in carlot quantities received at least one and one-half cents more a pound than was commanded by other beekeepers selling similarly in other states. The important feature of this movement and the one which is pointed out to honey producers large and small, everywhere, is that in spite of a short crop of probably not much more than ten million pounds, Michigan beekeepers secured at least \$100,000 more for that crop than they would have received without the direction of this new-founded movement.

The associations held meetings in cool weather and arranged picnics during the warm weather. In thus coming together, considerable good-

fellowship developed among them. There was more visiting about and more general friendliness than had been known in many a year. Such social stimulation was good not only for its own sake, but because it drew out into the interested open men who for years had concentrated their efforts toward beating their neighbor beekeepers. Once these men fell in with the plan, they proved among the best workers of the lot. Their enthusiasm carried many another beekeeper who might otherwise have been inclined to go his own way.

All this activity bodes well for the future of Michigan beekeeping; but what Michigan can do is limited by conditions in other states. High prices invite competition. For example, it was recommended by the associations that Michigan beekeepers sell to the wholesale trade five-pound pails of the best white honey in one hundred pail lots at fifty to fifty-five cents. Late in the season Chicago packers were offering to deliver to Michigan points the same honey in the same quantity at forty-seven and one-half cents.

It goes without saying that such an experiment as Michigan demonstrated in 1934 shows better results in a season of comparative scarcity than in a season of a bumper crop. However, honey producers should take serious notice of its being done at all. If the honey market might be stabilized the country over, American beekeeping would have little to fear from the future.

## Catnip for Robbing

Quite by accident I discovered the value of catnip to drive away robbers. I crushed some along the edge of a hive where there was honey from the removal of a super. The robbers left. I had no idea of producing that result but sought merely to get the honey off.

I tried further, rubbing the nice green catnip leaves wherever the robbers were attracted. Unlike the pet tabby, they did not roll and purr with delight, but left in haste. Now I use it constantly about the hives from which I am removing honey or when I am making divides during a dearth.

George Watt,  
Nebraska.

## Practical Suggestion

I should like to give my plan for water feeding.

I bore a lot of holes in a wooden barrel and cork them with full length corn cobs. I keep the barrel full of water and well covered. The bees can safely sip water from the long cobs without danger of drowning.

C. O. Bogart,  
Kansas.

# A Few New Considerations Upon Acariasis and Its Treatment

By A. Perret-Maisonneuve,  
France.

A STUDY of *Acarapis Woodi* would be incomplete if it did not point out the characteristic differences of the sexes of this *Acarus*, as well as the causes of variation of its normal form.

The size of the male *Acarapis Woodi* is slightly less than that of the female. In both sexes the body is of oval shape, but the abdomen of the female is always much more de-

veloped than that of the male; it ends in rounded shape, while the abdomen of the male is lengthened by the rectangular mass of the genital organs.

The mouth parts are similar in both sexes. Both male and female have four pairs of legs, the joints of which are supplied with short and rough hairs. The first pair of legs ends in hooks, the second and the third in suckers and the fourth in long hairs, but whilst in the male two of these hairs (one on each leg out of the two that are there) are very long and bent in a round form towards each other, which permits easy identification; in the female the two hairs ending the last pairs of legs are shorter, of equal length and end usually outwards, **outside of the laying period**. In addition, the abdomen of the male being much less developed, the last pair of legs, more disengaged, is more clearly visible and seems of greater length.

Such are the characteristics of *Acarapis W.* male and female, such as they appear in normal individuals, this is no longer the fact if one examines them after the treatment usually employed to fight "acariasis."

The treatment, whether we use the salicylate of methyl or the Frow liquid, has influence not only on the appearance of the trachea, but upon the acarians themselves, so it is advisable to make its effects known.

If we examine with the microscope a honeybee trachea extirpated out of the thorax and laid dry upon the glass plate, without using a mirror or a condenser, lighting it above and below, this trachea, if it is healthy, is similar to a little whitish gut, soft and opaque and having the shape of an S lengthened out; one senses rather than sees its chitinous spires.

If, on the contrary, the examined trachea has been laid off for some time already and if no treatment of it has been undertaken, it appears with less defined contours. It looks as if a little bloated, presenting a surface less smooth and its whiteness is darkened in spots and one sees here some small lineal brown spots appearing to separate the spires, like a colored exudation from the interior to the exterior.

These little brownish spots un-

doubtedly constitute a very safe and swift diagnosis of acariasis. But in order to recognize a contamination not far advanced or recognize the exact degree of the infection, it is indispensable to make the trachea translucent by one of the technicalities used in such a case, by building it up with lactic acid, with **Faure liquid** or with Canada balm, to examine it with the microscope by transparency, mak-



The breathing tubes (tracheae). Above, healthy trachea. Below, trachea, before treatment, heavily parasitized.



Above, trachea, parasitized, before treatment. Below, moderately parasitized trachea after treatment.

ing use of the mirror and the condenser.

If the infection is recent and no treatment has been undertaken, the coloration of the trachea is not modified and one perceives the Acarina installed near the spiracle. To distinguish them in this first instance, a certain habit is required, for their light shade caused by their contours appears as a grey line around the little somber mass formed by the

microbian center. It is the infection in its first degree.

If the contamination has already had a little duration the Acarina advance in the trachea, the whiteness of which becomes yellow, and the pigmentation and the excrements of the Acarina begin to darken it in spots. It is the second degree of infection.

The trachea subsequently appears as if literally filled with Acarina in all stages of development; the microbial centers, the pigmentation which grows and the excrements which accumulate darken this trachea more and more. The parasites end by reaching the secondary trachea. It is the third degree of infection.

If, on the contrary, a treatment with the salicylate of methyl or the Frow liquid has been undertaken before the microscopic examination of the tracheae, the latter appear yellower. Although strongly ravaged by the Acarina, they contain a number less and less numerous of those parasites, according to the greater or shorter time since the beginning of the treatment. It is therefore logical to conclude that the Acarina retreat before the invasion of the gases and abandon their subject before its death.

This evacuation is the easier controlled as the infection is less advanced (first degree); in this case the *Acarapis W.* installed near the spiracle and which have escaped death, abandon the environs of this spiracle and appear to seek a refuge in the elbow of the trachea and the secondary trachea. The figure of plate II puts this peculiarity in evidence.

As for the Acarina that have been hit by the medical gases and which have succumbed, their bodies appear more or less yellow, sometimes even brown, probably according to the time passed since their death.

The females and especially the bearing females, appear yellower than the males but in addition, the limbs of the destroyed Acarina become deformed, shrunk, sometimes their bodies curl up, which gives the dead parasites a very different appearance from the living ones, vaguely recalling the shape of a tortoise.

It is not useless to be able to recognize those different symptoms which give evidence of the usefulness of the medicine used.

### How to Water Your Bees

There are some beekeepers, experienced and novice alike, who do not know that bees need water the same as animals and human beings. When thirsty, the bee seeks water in wells, watering troughs, rain barrels and the like. It requires some effort for them to obtain water from these

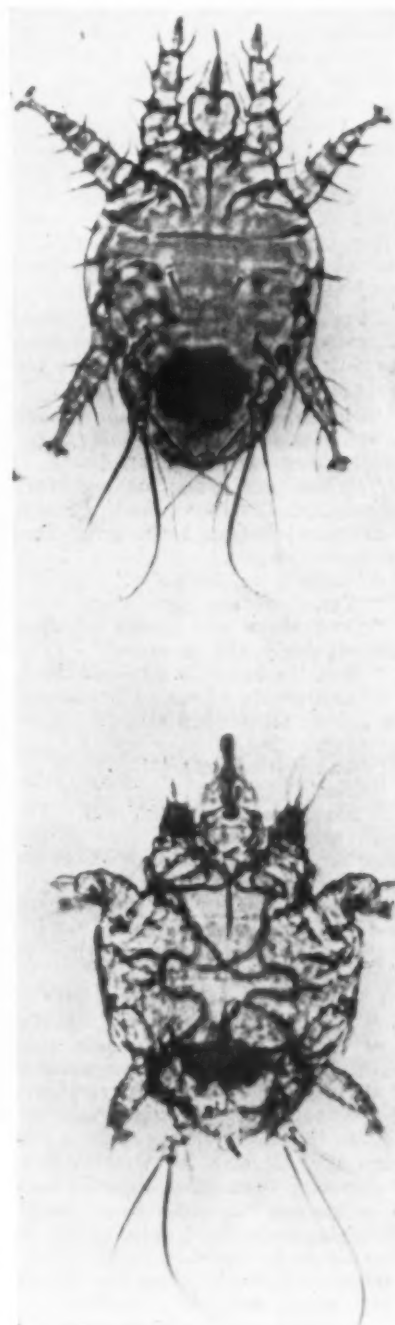
sources and they are in danger of drowning as well. The following method of providing for them has been found to be safe and convenient.

A pail or some suitable vessel is filled with water and placed near the apiary. A thick layer of ground cork is then sprinkled over the surface. The cork serves in supporting the weight of the bees and they are thus able to drink easily. Both the water and the cork should be changed at intervals to keep it fresh.

W. H. Davies,  
Illinois.



Above, adult male *acarapis woodi*. Below, fertilized female shriveled and yellowed by a prolonged gas treatment.



Above, unfertilized female. Below, unfertilized female shriveled after a recent gas treatment.



# Observations on Rauchfuss System

By E. L. Sechrist,  
Tahiti, Society Islands.

ONCE upon a time, in Wyoming, the Observer was visiting Herman Rauchfuss, Jr., son of Herman Rauchfuss, the bee expert and queen breeder of Colorado. All who know Herman Sr. agree that he is one of the few men who can be called "authority on bees and beekeeping." Unlike some other expert beekeepers, he has passed on to his sons and daughters much of what he knows.

I was complimenting young Herman on the ease with which he worked in an apiary and on doing only the essential things, refraining from doing so many things that beekeepers often think necessary but which, so far as honey getting is concerned, are just as well, or better left undone.

"I'm not responsible for that," Herman said modestly. "Dad made me do that way." And then he told me a story.

"One day father came up to where I was working a hive. Just then I was looking for the queen.

"What are you looking for?" father said. 'I want to see the queen,' I answered before I thought. Then he began on me.

"She's there, isn't she?"

"Yes, there are eggs."

"And there are plenty of eggs, laid regularly and in order?"

"Yes, the combs are full of them."

"And plenty of sealed brood, and the colony all in good shape?"

"Yes."

"And storing honey?"

"Yes."

"Shut the hive," Dad said. 'You don't need to see the queen. You know all you need to know about her by the work she is doing.'

"I shut that hive in a hurry," concluded Herman Rauchfuss, "and I don't think I ever wasted time in that way again."

I watched these Rauchfuss boys at work in their apiaries for several days trying to find out how they could get through the great amount of work they did and still have plenty of time to go fishing or hunting; for they do like those sports. Just a few years ago, Herman Sr. was the best man among them all and could take his boys over a little more rough mountain trail than they could do as easily as he could.

Of course, the brothers are strong husky men, amateur wrestlers as good as many professionals, and perhaps their excellence in bee work is partly because, as wrestlers, they know how to use or to husband their

strength. I think they do work too hard, sometimes, to get a job done, just as other athletes in competition are likely to do. Nevertheless, anyone who studied their methods of work could see that they worked easily and with the precision of a clock. Every motion counted, as it had to when one of them, Herman Jr., handled a thousand colonies without any help. Perhaps that is too many for one man to handle, unless he is an exceptional man, but six hundred or eight hundred ought to be easy work for any healthy man. I've seen two men trying to make a living out of about three hundred colonies of bees, and it always made me nervous to see the two of them puttering wastefully around an apiary, really not knowing just what to do or how to do it.

Herman made every motion count. When he took off a hive cover it was placed, as if without a thought, at the exact point where he would be when he finished the work with that hive, so that he could pick up the cover and replace it without an extra step. When he swung off a super, it was not lifted up and carried, but swung off and placed just where it would not be in the way of his work, but so near that he could reach it with ease. And he did not lift a super higher than was necessary. It makes a difference in the effort required to lift a hundred supers of honey, whether one lifts them an inch above the hive, or a foot above; and Herman didn't lift a super a foot unless it was necessary. He knew what he was going to do before he opened a hive, and just how he was going to do it. He almost succeeded in having the colonies in an apiary so uniform that, when certain operations were required on one colony, every colony in the apiary required the same treatment. That may not be exactly the way to have fun keeping bees, or to study the behavior of bees, but it is the way to get honey.

## Producing Liquid Honey Without an Extractor

A thousand colonies is a lot of colonies for one man to work unaided. I'm not sure that it can be done in any other way than by the Rauchfuss system of producing bulk comb honey and selling (either as bulk comb honey in the frames or as cut comb honey) all that the trade will take in that way, and melting up the remainder into virgin wax and a fine

grade of liquid honey. And let me say, right now, that liquid honey produced by the Rauchfuss system is as fine in quality and light in color as if it had been taken with an extractor; indeed, perhaps a little finer, because all of this honey is stored in new combs and is well ripened and fully capped, which may not always be the case when an extractor is used.

## The Rauchfuss System of Honey Getting

The Rauchfuss system makes use of the best practices in beekeeping, using a clear brood nest system in which swarming is minimized by uniform colonies reaching a standard honey-storing strength at just the right time. No brood is reared in the supers and the colonies are kept queenright and with brood chambers full of brood as long as the bees being reared will be useful in producing honey, after which they are filled with honey for winter stores.

In the spring, because the honeyflow is late enough to permit it, colonies are divided, under conditions and at a time as will permit them to become most effective for beginning to store honey. These uniform colonies, with mostly young queens, do practically no swarming, and but little disturbance or examination of the brood nest is required from the time divisions are made until the crop is harvested.

Shallow supers, the frames filled with full sheets of thin super foundation, are used, and during the summer nearly all the work of the operator is to pile on supers as long as the honeyflow lasts. He does not have to watch swarms, work brood chambers, nor extract honey.

The first time I visited Herman Rauchfuss, Jr., was in extracting time, near the close of the alfalfa-sweet clover flow, when other beekeepers were busy getting in and extracting honey and getting supers back on the hives to get more honey. I easily found Herman's big warehouse with his honey sign. I peeked in and saw a big truck and a passenger car and so concluded he would be at his house and not out at an apiary. I found his house only to be informed by his wife that he had taken the other truck and had gone to the mountains to hunt deer! And this at a time when I supposed he would be working his head off to take care of his crop of honey. Incidentally, he got his deer, of course. A bit puzzled,

I went away and came back later. And then I saw his crop of honey, taken off after he finished hunting, and stacked up, piles and piles of fully capped combs in shallow supers, with no hurry or fuss anywhere about the place.

Then, as orders were received, this honey was shipped out in the full combs, or cut up and put into retail packages. Afterward, during the winter, when the bees were all packed away, such combs of honey as remained unsold were cut out of the frames and run through the melter and wax separator.

These combs were white and had never had brood in them. The melting process could have been of the simplest; but a carefully designed melting tank was used, the exact form having been determined after years of experimentation. The heating element was a grid of steam pipes which melted the comb honey as fast as two men could cut it out of the frames. After this quick melting, the liquid honey and wax passed through a series of separators and strainers which completely separated the wax from the honey, the wax going at once into molds, while the clean honey ran by gravity into a tank, from which it was drawn into containers for sale.

By this method of quick heating and cooling and quick separation from the wax, together with the use of new combs, the quality of the honey was not injured. If it happened that some of the comb honey crystallized, the melting process took care of that, and by melting honey as orders were received, there never was any melting up of honey crystallized in sixty pound cans, which too often results in injuring its quality.

#### **Ingenious Machinery Used**

A large hot plate fastener is used for putting full sheets of foundation in the shallow frames. This machine is as ingenious and effective as the honey melter or the wax separator. They have a device for filling cans one after another to the exact weight desired as fast as an operator can place them in position, take them away, and put on the lids.

#### **Distribution of Labor Through the Year**

The Rauchfuss system distributes the labor of the beekeeper over a long period and enables him to handle more colonies and to use the more or less idle months of winter in shipping and melting honey, in cleaning up frames and supers and in getting everything ready for next year's harvest. Any needed labor can be hired readily during the winter season, or labor can be exchanged with some beekeeper who produces extracted honey and, consequently, has more free time during the winter months.

I have not timed the operations

fully enough to be able to compare the exact cost of producing liquid honey by this method with the cost of producing it by extracting; but I have seen these men handle more colonies per person than do producers working with the regular system of extracting honey. They have figures which show that the cost a pound of clean liquid honey in the can is less by the melting method than by extracting. Besides, the value of the large amount of fine wax easily produced is no small item.

The number of colonies one operator can handle unaided depends on the hours of labor required for each colony during the building up and honey storing part of the year. I have seen no other system of honey getting which as well distributes the labor of the operator through the year or enables him to handle as many colonies as does the Rauchfuss system.

## **Sainfoin on This Continent**

By G. F. Pearcey,  
British Columbia.

I was much interested in the article in your May issue of last year by E. W. Madoc of England on sainfoin and also the editorial addition on Sainfoin in this country. The editorial makes it evident that experiments here have not been altogether successful.

Our leading Experimental Station in Canada at Ottawa has reported tests with sainfoin which lead to the conclusion that it is not sufficiently hardy for Canadian climates. In his article, Mr. Madoc mentions that sainfoin will give satisfactory crops for three or four years and that one variety evolved by long selection will stay down twelve to fourteen years.

In British Columbia, about seventy miles north of where I live, there is a field of sainfoin, forty to fifty acres in extent, that has been down at least forty-five years, and during that time has withstood temperatures as low as forty below zero in many winters.

This was discovered quite by accident after we had established an out-apiary only a half mile away and could not understand what the bees were working on after dandelion was over and before the clovers were in bloom. It is, indeed, a valuable plant during that period and bees swarm on the blossoms.

It was decidedly an interesting experience because although we had seen many references to sainfoin in bee literature, we had understood that it was not grown in this country. According to my friend who grows sainfoin, the quality of the hay is all that is claimed for it by Mr. Madoc

and that stock will eat it in preference to other hay.

Apparently it does not winter kill as easily as alfalfa, neither is there the same risk of spoilage in the stack. I was told of instances where alfalfa hay in the stack had been ruined by stack-burn while a load of sainfoin dumped in at the time of building the stack had come out unspoiled and in good condition.

Perhaps the length of time this particular field has been down is partly due to the fact that they are usually in no hurry to cut the hay until most of the seed is ripe as they claim that its feed value is enhanced thereby, the seeds being larger than those of alfalfa.

This is all to the good, of course, from the beekeepers' point of view and also the sainfoin has a chance to re-seed itself as some of the seed pods are shattered during the handling of the hay, and it was noticeable on examination that the stand consisted of both young and old plants. This particular field is under irrigation for the spring period only.

Only one crop is taken and if sufficient rainfall materializes to make a good second crop, this is pastured off in the fall. Judging from my experience, it would be worth while for beekeepers to encourage the growth of sainfoin wherever feasible.

At least three of our Experimental Stations in Canada are making tests with sainfoin, now that the hardy nature of this particular strain has been brought to their attention. These will be followed with much interest.

## **One Phase of Competition**

News reports tell us that 13,000 colonies in California are being fed to keep them alive. The sugar is bought with money loaned by the government. The bees will then produce honey selling in California at five and a fraction cents. It will be shipped to New York by way of the Canal for another cent and then compete with honey produced here which cannot be produced at that price. Our beekeepers ask why.

E. G. Carr,  
New Jersey.

## **Honey Granulating at Lower Temperatures**

The findings of the Wyoming Experiment Station as reported in October in regard to honey granulating with finer and smoother grain at lower temperatures, will be of value to producers in position to control temperature. A cool cellar may be better than a warm room in late summer and fall.

E. S. Miller,  
Indiana.

# American Foulbrood in the Light of Modern Biology

By Emil Kellstrand,  
Massachusetts.

Of late, discussion in the bee press seems to run along the line of breeding for a resistant strain of bees, and I note that some writers are of the opinion that there is no resistant tendency among any bees.

We all agree that the disease is aggravated, to a large extent, by the modern movable frame hive, by our method of increase, and by queen rearing. When bees are kept in the old-fashioned straw skep of Europe and all increase is made by natural swarming, there is very seldom any trouble with American foulbrood for the obvious reason that diseased brood is not moved from one colony to another, and, because of the stop in brood rearing when the bees swarm, there is always a chance for the bees to clean out the brood comb. Not very often will the swarm bring foulbrood to its new hive; for in building new combs, the bees will have to use up the honey they have carried with them from the old stands.

The old method served to breed resistant bees by the simple, but ruthless process of natural selection. According to modern biology, it works something like this: We may assume that American foulbrood has been present in the race of honeybees for perhaps thousands of years. Still, it has not eliminated the race because of the resistant qualities that have also been present. Obviously, if there had been no resistance, no honeybees would have survived to our day.

Suppose there is, in a locality, a number of colonies in a wild state, or kept in the old way. The result is the same. The colonies that are the least resistant to American foulbrood are never strong enough to swarm and their queens are not mothers of other queens. Consequently, they will not reproduce their non-resistant kind. On the other hand, the colonies that are somewhat resistant to the disease will swarm and their queens will be the mothers of one or two young queens every season, and in that manner, will propagate their own resistant kind. The process will go on for generation after generation, until resistance to disease becomes the dominant quality in the race. The undesirable non-

resistant quality will be retained as a recessive.

Now according to the Mendelian law of heridity, a recessive character will appear in about one case out of four; but when the bees are using their own natural method of increase, swarming, there is not much chance for the recessive to break out, because of the small number of queens reared from each mother. If there should be one recessive now and then, that one will soon be eliminated.

Compare the evidence of this natural progression with that of our modern ways of making increase and of rearing queens. One queen will sometimes be the mother of thousands of daughters. Therefore, it is logical to believe that there are a great many recessive queens produced and shipped over the country. That is, in my opinion, the explanation of the prevalence of American foulbrood in America where commercial queen rearing is highly developed.

Assuming that my reasoning is correct, we may be able to keep the disease under control by inspection, shaking and burning; but it seems to me that the more we burn, the more we shall have to burn. The real problem before us is how to develop a strain of bees absolutely immune to American foulbrood. I think that can be done in special mating stations where we bring together both queens and drones from the most nearly resistant strain we can find, regardless of other characteristics, and where we shall practice in breeding until we meet with success.

In conclusion, may I indulge in a little pure speculation as to why some bees are resistant? It is known that the *Bacillus larvae* attack after the sugar content in the larvae has reached a certain low point. Let us suppose that there is among the bees a variation in the way they prepare the food for the larvae, so that some would feed a little richer food than others, just enough to keep the sugar content up a day longer when the larvae would be too old for the bacillus to do any damage. This theory is upheld by the fact that larvae in queen cells and in drone cells is not ordinarily attacked.

At any rate, whatever the cause of resistance, its characteristics seem to be transmitted from parents to offspring, and to breed this disease out of the race, should not be an extremely difficult undertaking.

## A Practical Bee Institute



The Germans believe in practical education. Here is a group in a German bee school learning how bees are managed, with the school right in the

apiary. (Of course, we do it that way in this country too, but no one takes pictures of it.)



# Schenectady County Display



Walter Seversen of Albany is quite proud of the beekeepers in his territory and sends this picture of what the Schenectady County fellows do with a season's display. Good pub-

licity never hurts. Remember, no one knows what you do as well as you know it yourself. People are always interested in what others do.

## The Black Locust —a Forgotten Tree

By J. H. Sturdevant,  
Nebraska.

The Extension Service of the College of Agriculture at Lincoln, Nebraska, is offering sixteen varieties of trees for planting as windbreaks or in the wood-lot for farm properties only.

We know particularly that the beekeepers have again forgotten their one best bet. There are **NO BLACK LOCUSTS** on the list. While it is stated that Indiana will plant 30,000, 000 black locust, it is doubtful if a single black locust tree will be planted in Nebraska.

There is scarcely a farm in Nebraska which would not offer space for several hundred of these trees; in waste corners, slough heads, wash-outs, and gullies and places where many times nothing else, not even grass, is grown. The planting of a limited number of black locust would prove of wonderful benefit to the land and in a few years these trees will have developed into almost untold value for posts, wherever they have been planted.

It is seemingly a fact that the

average native plainsman of Nebraska entirely overlooks the value of trees and so many valuable trees have been cut down and the space left bare with no evident excuse except that the plainsman's interest in trees has never been awakened. He will continue to buy posts by the wagon or carload, while his gullies wash deeper and wider instead of planning ten years ahead for the cutting of all the posts which he desires, worth several times the price of those which he now buys.

The beekeeper should act as a benefactor in informing his neighbors of the value of the black locust tree and incidentally he will be a benefactor to his industry.

## To Liquefy Dark Honey

My experience with dark honey goes back to the first honey I ever had. I soon found that holding the honey at a high temperature had a tendency to darken it still more. And when honey is dark to start with, a little bit darker makes a lot of difference, and, too, it seems that dark honey will not stand as much heat as white honey.

I tried a good many things, but the most successful thing was a cap-

ping melter. Provision must be made to hold the granulated honey or honey to be heated until the proper temperature is reached. I arranged a gate across the melter, letting it come nearly to the bottom. The honey, as it reaches the proper heat runs under the gate and by the time it reaches the outlet it is the proper temperature.

The heat is regulated by the heat of the stove, by the rate the honey is fed into the melter and also by raising and lowering the gate. I have a dairy thermometer and hold it in the stream at the outlet, and so make sure the proper temperature is maintained. I do not heat it to more than one hundred and forty degrees.

After leaving the melter the honey is led along a piece of eaves trough to the strainer tank. This exposure brings the temperature down to where the honey will not melt cut-comb in the jars.

This liquefying is always done in cool weather. In warm weather means would have to be provided to cool the eaves trough. I have handled in this way a thousand pounds of honey in one day.

J. O. Elliott,  
Kansas.

## Golden Bees

By Walter H. Hull,  
Virginia.

As when the moon on a summer night  
Fills her circle with silver light,  
So the queen bee in her fold  
Fills her circle with light of gold.

As the stars, celestial gems,  
Fill the sky with diadems,  
So golden bees, a valorous band,  
Fill with gold their keeper's hand.

## A New British Bee Publication

Volume I, No. 1, of "Beekeeping" is before us. This magazine published its first issue in May, 1935, and is the official journal of the South-Western Counties Beekeepers' Federation of the British Isles, representing the counties of Devon, Somerset and Cornwall. The first number is devoted to discussion of disease detection, disease resistance, and general material of seasonal interest.

The editor, Captain N. H. Turner, R.A., is well known to the readers of bee publications and is not unknown even to American beekeepers. We wish Captain Turner success with his magazine. With the cooperation of the Association, it no doubt will succeed.

The price to British subscribers is three shillings a year. The postpaid American price would be approximately one dollar.

# To Sell or Not to Sell

By Walter H. Hull,  
Virginia.

**W**HAT is a cooperative association? It is a number of men bound together for their own good. That covers it, doesn't it? Surely it does—covers it like a blanket, and also covers almost every other organization that ever was formed or dreamed of, for men don't often band together in formal organization save for their own good, real or fancied. So we will have to be more specific if we are to get at the real nature of this cooperative idea, particularly as it applies to beekeepers. It seems to me that this question is important. One reason why cooperative work has not succeeded better is because it has so often tried to be something that it is not and never was intended to be.

Let's do some figuring. One plus one equals two. We have two people, presumably cooperating. But two men in business together are not technically a cooperative organization; they are a partnership.

Again, two plus two makes four. We have four men together in business. But that is not exactly a co-op as we understand it, either; it is a company. Furthermore, any combination of numbers added in the same way would still represent a company, a species of organization quite distinct from your typical cooperative society.

The co-op, expressed in mathematical symbols, would appear something like this:  $1+1+1$ , ad infinitum, equals X. The 1's represent individual beekeepers, the X stands for their idea of cooperative organization; and a very good symbol it is for that purpose, too, since probably half of the prospective members of such a society have no definite idea of what it is, and of the ideas of the other half, probably no two are near enough alike to be recognized as kin to each other. It occurs to me that the first essential to success in cooperative effort is to understand what it is and, more particularly, what should and should not be expected of it.

Of course, the beekeepers of today would be getting along very nicely without any cooperation if they were willing to live according to the standards of two hundred years ago. Or, to put it the other way around, if the beekeepers of two hundred years ago had been able to produce honey by the ton and the carload as easily as we can today, they would have been very well off indeed. They could have swapped honey for clothes and shoes and salt meat in abundance.

The more progressive would have shipped a few tons abroad each year in return for what would by this time be genuine antique furniture. Some of them might even have built their houses of imported brick, as the Virginia tobacco growers often did.

But we are not content to live that way—could not, with any degree of satisfaction, if we tried. Some power beyond our control has shifted the gears of society. Life is keyed to a higher speed than two hundred years ago and we must keep pace whether we like it or not. Effective cooperation, then, may be set down as a necessary factor in modern life. We need it in order to keep up with the procession.

The first great danger to such an organization, as I see it, lies in too great expectations on the part of its members. To be sure, they should expect something from it. But that something need not necessarily be a higher price for their products, especially at the beginning. No competent business man, embarking on a new enterprise, expects it to yield as high returns as a business already established. If a member of the cooperative organization gets the same price for his product that he would get in the open market, he is decidedly better off, since he is relieved of all the worry and expense incident to turning his crop into cash.

Even if membership in the organization meant a slightly lower price, if the crop was taken off his hands and a market assured he would still have no cause for complaint; and I think that the great majority of beekeepers would be satisfied under those conditions if they understood them and felt that the returns were reasonably fair. In making returns to members a rather full report, especially as it concerned that member's product, would be in order.

A price so much lower than offered by the open market that it would wipe away entirely the saving to the individual in expense of selling plus the benefit of a sure outlet for his product would still be very much worth while if meantime the market was being conserved and a solid foundation being laid for future trade by diverting low grade honey to other uses, establishing standard grades for the grocery trade, and perhaps engaging a research worker solely to discover new uses and new outlets for honey.

That idea of a man devoting his whole attention to research in honey

from a commercial angle strikes me as worthy of consideration. I cannot imagine a competent man working and studying and thinking for a year on new outlets for honey without discovering outlets that would be worth several times the amount of his salary.

All this groundwork, while it would reduce the income to members during the first years, would nevertheless have a definite value that would later pay big dividends—provided that the members had the nerve to hang on and stand back of their leaders so long as the leaders did not veer too far from the right course. No leader can follow the right course absolutely; make up your mind to that, brother. Only the man at the bottom is infallible in his judgment of what should be done up at the top. However, I think everyone can understand why it is that, in building a skyscraper, we begin by going down rather than up. Foundations have to be laid for everything, and they cost money.

The second great danger to the infant organization, it appears to me, lies in attempting too much, in scattering its resources. The venture should confine itself purely to selling. This is not because cooperative buying and cooperative back slapping, and even cooperative blah, are not jewels of the first water, worthy and desirable. It is because they cost more, in such a setting as this, than they are worth. They divert valuable forces from the business of selling, when selling demands every ounce of force and concentration that can be focussed upon it.

In all business, selling is of primary importance. It cannot be otherwise, since business is based on profits from selling something for which the world has learned, in one way or another, to look to you. Therefore, if you want a social organization, or a buying club, or a talking society, have it by all means, but have it separate from this organization that is charged with the vital business of converting your produce into cash.

The efficient transmutation of produce into cash is a highly developed art, and the sooner and more completely we realize this fact the better we will get along. Many of our biggest manufacturing concerns have found it advisable to organize selling companies whose sole reason for being is to dispose efficiently of the output. If these powerful and thoroughly organized concerns find it to their advantage to form a special company to sell their products, how much more should the loosely organized beekeepers find it to their advantage. I sometimes think that one trouble with beekeepers is that we consider ourselves so much smarter than other business men that rules

don't apply to us. The rules apply nevertheless.

For the beekeeper, selling outranks buying in importance ten to one—for the simple and sufficient reason that any beekeeper worthy the name produces at least ten times as much as he buys. At the same time the proportion of good salesmen among beekeepers is scarcely one in ten, which gives the selling end of the business as conducted individually a one-to-one-hundred handicap. That could account for a whole lot of chaos in the honey trade.

If the proportion of salesmen among beekeepers seems rather low, there is a reason for it. Salesmanship calls for nerve, hardness, aggressiveness. It comes natural to some, but is entirely foreign to the make-up of others. It can be developed in almost anyone, but to those whose natural bent is not in that direction it makes no appeal. I suspect that numbers of very capable men have taken to beekeeping to escape this hard necessity. Being well endowed mentally, they become good beekeepers but not very good salesmen, and the trade as a whole suffers. These facts make the honey trade one of the most promising and fertile fields for cooperative selling that could be imagined. Whether this will be done or not, whether the right leadership for such an organization will be forthcoming, remains to be seen.

One thing is sure: If the beekeepers themselves do not step in and take control, some privately managed concern will do so. With the door wide open, some one is going to go in.

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prudence,  
And profit, excepting mankind, who  
confess,  
Than in the greatest, most perfect of  
creatures,  
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lesse.

—Verse by W. H. Hull,  
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## THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

### TO GET BEES FROM HOUSE

I would like to know the easiest way to get a swarm of bees which are lodged in between the walls of a house. The walls are of brick and they are in the dead air space. They have been there for about three years. I would like to know method to use to get the bees, not concerned about the honey.

ILLINOIS.

Answer.—In order to drive the bees out of a wall, it is necessary to have a hole, other than the hole through which they go in and out, in order to force smoke into their abode and compel them to leave. Preferably the hole should be at the opposite end of the cluster from their entry. Then by using a bee smoker, filled with ordinary fuel, wood, rags, etc., they may be compelled to leave. It would be still better to employ a mason to open the wall and remove the combs and all. There would be no danger of stings if the bees are thoroughly smoked before the work is undertaken. The bees will then gather somewhere and may be hived like an ordinary swarm.

If the above advice is not acceptable for any reason, and you do not care whether the bees are saved, you may kill them by introducing into the hole some rags dipped into bisulphide of carbon. The quantity of the drug to be used would depend upon the amount of space to be filled with this deadly gas. When enough has been put in, close the hole.

### INFERIOR HONEY IN DOUBLE BROOD CHAMBER

When starting beekeeping in 1912 it was by a happy chance I adopted the Dadant size of hive for no doubt the large hive, together with the 1½ inch spacing, obviates much of the swarming nuisance, and after the bees are properly fed there is no need of worrying as to how they will build up for the next harvest, for there is always an abundance of surplus food surrounding the cluster in early spring just where the bees need it for converting into brood.

When dandelion bloom is well advanced, I add a super of drawn comb, elevating from two to three of brood frames, depending upon the individual strength of the colony, and giving the queen freedom of the two compartments. Prior to the clover flow she is placed below an excluder, together with the uncapped brood found in the super. The result is an exceedingly strong colony for the commencement of the clover flow, a most desirable condition you will say, but there is one rather disconcerting feature: the bees are fed so abundantly the preceding fall there is always a certain amount left, plus a quantity of dandelion and apple blossom, this honey being dark can not be left for extracting with the main crop and therefore I find it expedient to take it off.

Bear in mind my supers are of the same size as the brood chamber.

Will you please outline your system of management and explain if you are able to overcome the necessity of this light spring extracting?

ONTARIO.

Answer.—This is a matter of locality, for, in our case, unless we crowd the bees for space, in September, they are apt to place too much honey in the supers and not leave enough in the brood chamber below for winter. In fact that is probably the biggest fault of our management, especially if the winter is mild and the spring is cut short with heavy frosts that destroy the bloom. Then it becomes necessary to feed on a large scale, to prepare the bees for the clover crop.

It is necessary for you to study the conditions and arrange matters so that your bees will not have too great a surplus. Yet, this is a good fault, and it is better to have too much than too little for spring breeding.

### SPACING THE BROOD FRAMES

Relative to the matter of spacing the brood frames correctly. In the book "Dadant System of Beekeeping" page 22, Julius Hoffman is quoted in which he states that spacing 1½ inches gives an empty space of ¾ inches. From this I assume that the width of top bar used measures ¾ inch.

I am using a top bar 1 1/16 inch wide and the question I want to have answered is "What should be the empty space between these wider top bars in order to obtain the same satisfaction in the matter of spacing as the Dadants enjoy while using the top bar which I presume is ¾ inch wide?"

From the article it is difficult to decide which is the important factor. The distance from center to center of top bars or the space between top bars. I am using the Jumbo brood frames and as I am having new brood boxes made to order to give me more brood room than the standard Jumbo brood box, I want to get this question of spacing frames definitely settled so that I can standardize my apiaries of the future.

ONTARIO.

Answer.—The width of the top bar should make no difference. The important thing is to have your combs 1½ inches apart, from center to center. If your top bar is ¾ inch wide, the space between them should be ¾ inch. If it is one inch, the space between them should be a ½ inch. If it is 1-1/16 inches the space should be 7/16. In each case, the space between the brood combs will be a half inch.

A narrow top bar allows of building more brace combs. A wide top bar gives less room for ventilation. But any width of top bar may be used, according to the ideas and preferences of the apiarist. It does not matter, as far as the spacing of combs is concerned.

### SELF REARED QUEENS

Will queens reared in a colony of bees when the old queen has been taken away be or make as good queens as those raised by a colony when you cage the queen but let her stay in the hive?

It seems to me that queens reared by queenless colonies are not so good, but would like to have your experience in this matter.

This country is so full of foulbrood that you have to constantly replace young queens or you will soon be out of the bee business all together, and I find that about 50 per cent of all queens that I buy are not up to the standard, and are superseded within two or three months.

MISSOURI.

Answer.—The quality of queens, in my opinion, cannot depend upon whether the old queen is there or not. It depends altogether upon whether the colony that rears the queen or queens is sufficiently strong in young bees to supply the growing larvae with a plentiful amount of royal jelly.

As a matter of course, colonies in which the queen is missing are often at fault in this, especially if the queen has been missing long enough so that there are few young bees.

To rear good queens, we need plenty of young bees, and plenty of food in the hive, warm weather so that there will be no occasion for the brood to be kept at an unde-

sirable temperature. With these conditions we should have good queens from the queen rearing colonies. The praise given to queens reared under the swarming impulse comes from the fact that in such conditions the requirements are all fulfilled.

The superseding of queens is often due to their having suffered in the mails. We had less trouble when queens were sent in larger boxes by express.

## Famous Beekeepers —Elisha Gallup

(Continued from page 374)

a dollar for his secret. What did he mean, charging them for it? He had said when he had started writing that he would answer all questions free of charge!

Gallup replied that he was a hard working farmer with a family, and he was not overburdened with greenbacks. Beekeepers had been piling their questions on him. He had received thirty-six letters in a single week on the hive question alone, to say nothing of many letters on beekeeping in general. He had to stay up at night answering letters after other people were sound asleep. And all he got for it was kicks, cuffs, abuse.

He merely had tried to cut down on his correspondence by putting a price on his hive description. Well, that had done it! People quit writing when they had to pay a dollar!

After this outburst, Gallup sent the description of his big hive to the journals—for nothing, and continued to answer the letters. "My private correspondence would fill a goodly sized volume, of which I am proud," he wrote.

Elisha Gallup was born August 22, 1820, in the town of Milbourne, County of Sherbrook, in what was then called Canada East. His first thirty-nine years he lived in Canada. Then he moved three times: to Wisconsin, in 1859; to Osage in Mitchell County, Iowa, six years later; and after thirteen years in Iowa, to Orange County, California, where he passed his last twenty-five years and died at the ripe age of eighty-three.

The story-tellers have it that when he was not more than a baby his mother would look for him first by the beehives when he ran away. It is true that he kept bees all his life even from his very early youth, with the exception of a few years after he first became a water-cure doctor. Then his patients were so numerous that he had no time for the bees.

Gallup got his first swarm when he was twelve years old. His father kept bees, but concluded that he never could have any luck with them. He told young Elisha he might try his hand, and counseled him to buy somebody's lucky swarm. The bees would not do well, the elder Gallup said, unless their purchaser also

bought their luck. He coached Elisha carefully on the rules for the right start in beekeeping. He was not to pay money for them, but he must exchange something. Sheep were the best to trade for bees.

Elisha found plenty of swarms he could get for three dollars but, no one would sell his lucky swarm. Finally he persuaded a widow to trade her lucky swarm for seven dollars worth of hemlock timber. She agreed that her luck was to go with the swarm as a necessary part of the bargain.

Gallup later said the consequence for the widow was bad, as her bees would go into the woods after she sold her lucky swarm. But he had the best of luck. He kept the colony twelve years in the same comb. He always had two new swarms every season, sometimes three, and always a box of honey.

Soon young Gallup lost faith in the superstition of his father and the widow, and studied how to make all his swarms lucky swarms. He decided that having the comb built right when a new swarm was hived in a box was a great part of the secret. In later years, after he had traded charms for system and knowledge, he was able to say, "I make all lucky swarms now, and I do not consider a swarm in proper working order until it is made into a lucky swarm."

He was fooled by superstition in his youth, so he attacked it in his old age, and many a quack felt the sting of his pen or tongue. Prof. F— was selling a bee charm to keep the bees from stinging. "If you put one drop of Prof. F—'s Bee Charm on your right ear, it will prevent the bees from stinging your left heel," he wrote, "providing you keep on your boots, and do not let the bees get inside of them."

Gallup at first had no bee books or magazines, and he saw his first movable frame hive when he was middle-aged. He got his first real insight into beekeeping from an old man named Wellhuysen, from Holland. Wellhuysen had kept his bees in basket-shaped willow hives that he covered inside and out with cow manure. The old Dutchman knew how to make rapid increase in his colonies, and he showed Gallup how to keep them all the same strength. The younger man often went out into the apiary, turning over hive after hive and marveling that they all were equal in numbers and prosperity.

Gallup was a miller as a young man, and then a farmer. He had little book learning, but he managed to learn a deal by keeping his eyes open. One year he sowed a piece of land to buckwheat for his bees. He went through the hog-lot with some buckwheat still in his sack. The hog-lot soil was rich and mellow. He decided to sow it to buckwheat also, and to keep the hogs out. To his surprise when the buckwheat was in

bloom, the bees would not go to the buckwheat in the field, but they covered the blossoms in the hog-yard, and harvested a good crop of honey from it. Keep the ground rich for honey, Gallup decided.

Years later in Iowa a neighbor came to Gallup for advice. He had been growing buckwheat for his bees for eight years on the same piece of land, he said. At first they had harvested good crops of honey, but of late years they would not trouble to work the flowers and he was getting no crop at all. Perhaps his bees were "getting sick of buckwheat."

Gallup intimated the buckwheat was not yielding nectar, and told the neighbor about the buckwheat he had grown in the hog-lot. The neighbor went home and plowed up his cow-yard and planted it to buckwheat. Once again he got a good crop of honey.

Gallup built an observation hive and often watched his bees late at night through the glass. He got his first movable frame hive about ten years after its invention, and it was then that he made a real gain in his knowledge. He bought the first edition of Quinby's "Mysteries of Beekeeping Explained." He thought it an excellent book, and hastened to buy the second edition when the publishers announced it. He was disappointed. According to his mind, Quinby had been standing still. Gallup thought he had not taken advantage of the movable frame hives to bring his instruction up to date.

Gallup felt that there were many features of beekeeping where he could instruct, since Quinby had not done so. He decided that he would write for the bee magazines. He was nearly fifty years old, had little schooling, and could not write more than a scrawl. But this did not deter him. He went to a writing school in the winter of 1865, learned to write a legible hand, and began to send letters to the American Bee Journal. For years few wrote so much for any magazine as Gallup did for the Journal. In one year, this magazine published twenty-four letters from his pen. His private correspondence also was enormous. One correspondent alone said he had a stack of letters on beekeeping four inches high from Gallup. And he wrote to hundreds of people. Many adopted his hive, which was in wide use for years.

Elisha Gallup was no reader. It is doubtful if he ever read much on beekeeping outside of the bee magazines and Moses Quinby's book. Yet, so well did he understand beekeeping practice that G. M. Doolittle, probably his most able pupil, spoke of him as one of the greatest beekeepers who ever lived.

In 1898, after Gallup was nearly eighty years old, Charles and C. P. Dadant sent him a copy of their re-

(Please turn to page 392)

# American Honey Institute NEWS NOTES

## Cookery Contest

The whole family will be interested in this contest. \$150.00 in prizes will be offered in the second National Honey Cookery Contest at Statler Hotel, Detroit, during the annual convention, October 7-10. On October 8 and 9 the entries will be judged.

Interest the ladies in baking a cake from their favorite recipe and send it to American Honey Institute, Detroit, Michigan, Statler Hotel, attention of Cookery Contest. Cookies or candies may be sent if preferred. In each of the three classes, a first prize of \$25.00 is offered. Twenty-seven other prizes are available including subscriptions to leading magazines, food products and kitchen utensils. Advertise the contest in your locality by giving every housewife a copy of the rules, list of prizes and an entry blank. Write American Honey Institute, Madison, Wisconsin, for a supply so you will have them on hand.

## New Telephone Number

We hope many of you will have the chance to use our new telephone number should your travels take you through Madison. Badger 1094.

## Here's An Idea

Miss Florence Bennett, chairman Educational Department, Oregon State Association writes that one of her county leaders reports the forming of a society for the promotion of the use of honey; officers have been elected and plans are underway for a picnic at which all food will contain honey. We hope that idea will spread. One of the Institute staff recently attended a beekeepers' picnic and not one of the foods contained honey. Even the fresh fruit was sweetened with sugar.

## Annual Convention

Don't forget the annual convention. This will be at Detroit, Michigan, October 7, 8, 9 and 10; the best convention in history. The time is ideal. After a long summer of hard work, you will enjoy pooling your experiences with beekeepers from all over the country. The location is convenient; about halfway from anywhere in the United States and Canada. Accommodations are splendid. The management of the Statler Hotel is opening the doors to you and doing everything to help you to be comfortable and have a profitable and good time. And remember the Michigan State Beekeepers' Association is going the limit to make this year's convention the best in history.

## Publicity for Honey Ambrosia Salad

Have you seen the July 14th issue of the American Weekly with the advertisement of the California Fruit Growers Exchange? It includes a four-color picture of Honey Ambrosia Salad. The illustration and recipe also appeared on the homemakers page of leading newspapers, all through the country. Miss Ramsay sent us a copy of her new recipe book "Sunkist Recipes for Every Day" and we note honey formulas appeared on several pages. This booklet would be a fine addition to your recipe file and may be obtained by writing to the California Fruit Growers Exchange, Los Angeles.

## What Are You Doing for National Honey Week?

National Honey Week is only four months away. Write for a program. See the National Honey Week exhibit at the annual convention. The National Honey Week Program is already well underway. Bakers' Helper, Progressive Grocer and others of national distribution have promised cooperation. Ann Welcome, Director of the Homemaking Department, San Francisco Call-Bulletin writes, "Mighty glad to do what we can toward National Honey Week."

## Did You Find These?

The following were found on pages of the magazines mentioned: "Bakers' Helper" suggestions on pages 918 and 932 of June for honey and that good sounding Carmel Pecan Glaze on page 1010 of the June 15 issue and the Fig or Date Cooky Filling on page 1015.

"Better Homes and Gardens" such good frozen desserts! Makes your mouth water just to read the recipes. Pages 74, 75 and 76 Amethyst Cream Sherbet, Honey Orange Sherbet, and Yum Yum.

"Country Gentleman." Miss Harris suggests coating fresh strawberries with fondant in which honey is used. Her recipe is on page 50.

"Forecast." In an article entitled "Family Meals That Children Can Eat" the author writes "... choose honey, brown sugar, and natural fruit juices as flavoring substances and the children's food will never become monotonous."

"Good Housekeeping." Page 83 a suggestion for cottage cheese, honey, and peach salad.

"House Beautiful." Page 73 a very tempting finish "off-er." Honey in the comb and a fresh supply of Sally Lunn.

"Household Magazine." A real accompaniment for the children's mid-

morning or afternoon glass of milk. Warm  $\frac{1}{4}$  cup honey and add  $\frac{1}{4}$  cup crisp rice cereal. Makes a spread for twelve crackers. Graham would be good.

"McCalls." Page 61. Ideas for making money. Packing honey candies is one.

"Parents." Try the recipe for Rhubarb Baked with Honey, page 50.

"Progressive Farmer." Page 24 is actually flowing with honey. Recipes for Honey Ball Flakes, Honey Sour Cream Pie, Honey Sour Cream Cookies, and Honey Peach Cobbler.

## National Retail Grocers' Convention

Your Secretary attended the National Retail Grocers' Association Convention at Indianapolis, June 17 to 21. More than 10,000 of the nation's food manufacturers, wholesale and retail gathered at one of the largest conventions in the history of this association. Through the courtesy of the W. F. Straub Company, your secretary was given a chance to talk to five hundred grocers and their wives. Of this number 266 from twenty-five states registered for special Institute honey helpings. In talking to the grocers, the following facts were evidenced:

1. An increasing demand for liquid honey and a decreasing one for comb honey.
2. A decided trend toward volume buying. (a) Preference for pound jars and 5-pound pails.
3. Grocers eager for honey sales helps.
4. Would like honey salesman to set up feature honey exhibits.
5. Are willing to help develop both the Honey Cookery Contest and the National Honey Week program.
6. Would like seasonal honey recipe leaflets to give to customers.
7. Have an appreciation for the food value of honey.
8. They need regular reminders to revive their "honey consciousness."

## Famous Beekeepers —Elisha Gallup

(Continued from page 391)

vised Langstroth book. He read it with interest and surprise, then sat down and wrote a letter to the journals. People might believe, he said, that he had been plagiarizing all these years from Langstroth's book, since he had been putting forth as his own ideas many of the things that were in the book. But that was not so, he pointed out, since he had never read it until the Dadants had sent him a copy.

During the late seventies Gallup disappeared from the pages of the American Bee Journal. Beekeepers wanted to know what had become of him. J. W. Lindley wrote from Osage that Gallup now was a doctor, a hy-



dropathist. "He is performing," he said, "some remarkable cures, having treated over thirty cases of fever this spring, without the loss of one." Lindley said that he had taken over Gallup's bees.

Gallup in some way lost his grip on affairs in Iowa. Broken in health, he shook the dust of the Middle-West from his feet and went to California. The mellow climate brought back some of his youthful vigor. At the age of sixty-seven he married a second time, and began anew the raising of a family. His wife died, leaving him three children. It seems that he married a third time, for the American Bee Journal in 1900, when he was eighty years old, carried a

notice that his wife had just died in childbirth.

He carried on his work as a hydro-pathist in California, and kept a few bees which did well in the California sunshine. The bee magazines printed little about Gallup for many years. Then, in 1893, George W. York, who had become editor of the Journal, learned his address, wrote to him and suggested that he contribute once more to its columns. Gallup came back, as vigorous as ever and sent a contribution for almost every issue of the ten years until his death. Even on his death-bed he dictated a letter correcting a mistake that had appeared in one of his recent articles.



By G. H. Cale

**W**HAT has happened? While coming down to work on this Sunday afternoon, I notice, on good hardy, full-bloom, white sweet clover, at least ten black flies to every honey-bee. Atmosphere mucky; thunderstorms brewing; hot, steamy—every condition ideal for honey. Bees locally making a fair living and that's all. The bees in location in good sweet clover making a scant surplus, from all reports. Have not seen them for two weeks.

Two weeks ago Monday night, an inch and a half rain broke one of the best flows I have ever seen and it has never come back to pitch again. Reports from over the Middle West sweet clover territory all tell of this happening. In alfalfa locations and in northern and western territory, the flow apparently has been good, without interruption.

Wish someone would explain these things. After all man is only one factor in a combination of ruling circumstances. Call what lies beyond by anything you will, religion, superstition or otherwise; at least be humble.

One of the hardest questions to answer for the beginner is "When is the best time to requeen?"

Last year requeening in May resulted satisfactorily. This year requeening from the 20th of May to first of June was almost sure to result in non-acceptance. I still believe we will do most of our requeening during the very end of the season, October and November; and what is not

done then will be taken up again in April and early May. There will be no requeening the balance of the year. Queen breeders listen to this! It means a later and an earlier business. Can you furnish the queens?

Earlier reports were for a large crop. My guess is it will not materialize. There will be considerably more than average surplus in some places, considerably less than an average surplus in many others. Earlier promises have not been fulfilled. I see no reason why buyers should break the market of last fall very much. I guess, if I were a honey buyer, I would get the honey just as cheaply as I could possibly get it. That's perfectly human. But, of course, being a producer, I want to get just as much from the buyer as I can. (Just a little more if possible).

All reports confirm our previous notes in this department about swarming. After all, the big hive shows up pretty well in comparison with some stories that we have heard. One report is to the effect that, in an apiary of about 100 colonies, the owner, not being able to get there for some time, found about 50 or 60 swarms hanging around on bushes and limbs, etc., when he finally reached the yard. We haven't anything like that to contend with. I imagine about 10 per cent of swarms would catch our season's records. We saved about half of them. The rest have answered the call of the wild. This will be a good year to hunt bee trees. Beginners take note of this.

Haven't liked the way the bees worked in this honeyflow from the very start. They crowded the brood nest with plenty of super room above; more than they should. While they stored well in the supers from side by side, and did not build up through the center, this storing in the brood nest has not looked like a long, heavy flow.

Also, they loafed in the morning. Did not get out until 10 or 11 o'clock. Then they worked the balance of the day fairly well. Last year at this same time, the opposite was true. The bees were out about 5 o'clock, early, working until perhaps two or three in the afternoon when at the hottest time of the day, they stopped. Temperatures this year have ruled about 10 to 20 degrees below those of last season (thank the Lord).

Top supering seems to be coming to the front as though it were a new idea. We have been supering that way for years. There is no difference in the crop and no difference in the storing, when empty extracting supers are placed on top of those in which bees are working. However, when the top supers have become sealed and the bees have left them to work below, it becomes necessary to break down to the super where other bees are working and give room there. We always aim to keep ahead of them and put the super on the top. It saves a lot of time and labor. It is only necessary to lift the hive cover off and look in to know whether they need more room or not. No heavy lifting to do.

Quite a few comments about my article on using carbolic acid. John Jessup, Council Bluffs, says his system and ours are about alike but worked out independently. There are a few points in management with this method that I did not give. After the bees are driven out we set the supers off of the hive onto an empty super with a board on the bottom, keeping the top of the full supers covered with an extra acid board as they are removed to keep out robbers. Then we examine the brood nest of the colony before the honey is loaded to see that there is no disease.

Before supers are first given to colonies, the brood nests should also be examined to see that there is no disease. This check and double check is very valuable in disease control.

It is also a great help in management the rest of the season because colonies may be marked for attention for requeening or other later management.

Of course it should be unnecessary to say that if any colonies are found diseased, they should be removed at once and disposed of.

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## FROM THE LITTLE BLUE KITCHEN



By Lida Keck-Wiggins

**E**VEN though it is "dog days" still it's the month with the illustrious name . . . Augustus . . . for Augustus Caesar, nothing less! So tho' it may have its drawbacks, August is still a royal old month for a lot of things, especially picnics!

Almost everybody has enough of the gypsy instinct to like to go out into the woods, along streams, into the heart of Nature's green summer domain once in a while. So let's you and I, go off for a ramble, carrying our suppers with us! Don't you like the idea? Yes?

To be exact and wholly practical . . . Honey Lady has been experimenting in honey sandwich fillings and finds their number is legion. She has tried out ever so many and selected the very best for her Blue Kitchen friends.

In making up some of them Honey Lady found there really wasn't anything she could invent by way of a Honey Mayonnaise better than the mixture already "discovered" by Mrs. Jensen. So giving credit where credit is due, Honey Lady hereby passes along the said recipe. The fillings, however, are her own and belong exclusively to our Blue Kitchen family.

### Honey Mayonnaise Dressing

- 1 egg
- 1 teaspoonful salt
- 2 tablespoonfuls honey
- 1 teaspoonful mustard
- 6 teaspoonfuls honey vinegar
- 6 teaspoonfuls lemon juice
- 1 1/2 cupfuls salad oil
- Paprika
- Few grains cayenne

### Directions

Into a conical shaped bowl break an egg and add the salt, honey, mustard, dash paprika, the cayenne and 1 tablespoonful honey vinegar. Beat thoroughly with a good egg beater and add the oil, 1 tablespoonful at a time, beating thoroughly after each addition until 1/2 cupful is added and the dressing is thick. Then the oil can be added in larger quantities at a time. When one cupful has been added, dilute with the rest of the honey vinegar and the lemon juice adding this alternately with the rest of the oil. Use altogether 1 1/2 cupfuls of oil, beat vigorously all the time

during the making. When finished, dressing should be smooth and thick.

### Honey Vinegar

- 2 pounds honey
- 1 gallon water

Dilute the honey with a part of the water to be used, and then pasteurize by heating to about 200° F.

Scald the barrel or crock in which the vinegar is to be made, pour in the diluted honey and add the water. Use the purest water available to prevent contamination. If rain water is used, boil thoroughly. Add a little mother of vinegar or fruit juice to start fermentation, cover with a closely woven cloth to keep out dirt and prevent entrance of undesirable yeast or bacteria. From six to twelve months are required for proper ripening.

— o —

If you happen to have a favorite home-made mayonnaise dressing recipe, or happen to have the back number of The American Bee Journal in which Honey Lady gave her oil-less butter mayonnaise with honey sweetening, substitute honey for the sweetening in yours or make up a bowlful from Honey Lady's recipe for that will "do" quite nicely though Mrs. Jensen's is truly extra fine.

Now for the sandwiches which really should make your mouth water while reading about them.

### Cucumber

Select small fresh cucumbers. Peel, and slice as thin as a very sharp knife or vegetable slicer will make them. Let soak for several hours in salt water. Then when ready to pack picnic basket, spread thin slices of whole wheat or white bread (if made with honey all the better) and then cover each slice with thin wafers of the salted cucumber. Spread these with mayonnaise. If you wish add a lettuce leaf lining against the butter (though, as lettuce so soon wilts and "looks the part," Honey Lady seldom uses it in picnic basket sandwiches). Wrap each in oil paper. Keep in refrigerator till you start.

— o —

At a party given by Honey Lady not so long ago to a class of Sunday school boys, innumerable sandwiches had been prepared, but the kind that

made the hit were the honey-tomato ones. For these Honey Lady took nice, sandwich bread buttered well; then on this laid slices of firm tomato, not too thick, spread well with honey mayonnaise. The boys are talking yet about those sandwiches! Honey Lady suggests that if there would be time at your picnic that you take along to picnic grounds the "makings" of these sandwiches, slice the tomatoes just before serving and make up the sandwiches. It is so easy to take along a little jar of mayonnaise, whole tomatoes and the like when one goes in a car. This will insure that the sandwiches will not get soggy. You'll be surprised how good these are.

— 0 —

#### Chopped Ham and Honey

The good, old, time-honored Ham Sandwich takes on new glories when the bread, spread more liberally than on some other kinds, with good country butter, is then spread with deviled ham (use a food chopper for this and either fried, boiled or baked ham will do equally well) and mix well with honey mayonnaise or with mustard and honey, and of course wrap in oil paper. You can add chopped pickle if you want a specially tasty filling.

— 0 —

#### Cottage Cheese and Honey Filler

If you make or have cottage cheese, you can add a nice sandwich to your collection by sweetening some cheese of this kind with mild-flavored honey . . . not too much . . . and spreading on wafer-thin white bread.

— 0 —

#### Peanut Butter and Honey

Peanut butter and honey make a delicious filling for whole wheat bread sandwiches. Some time ago Honey Lady mentioned this, it having been suggested to her by a young mother who fed it to her sick child with fine results. She said too that she served these sandwiches at a party and every guest asked for the recipe. Peanut butter by itself is too dry, and if too much cow's butter is added, it is too rich. The honey admixture fills the bill. Good for anybody with a weak stomach who dares to go to a picnic, anyway!

— 0 —

#### Honey Salad

At a recent picnic luncheon where the ladies all took their own basket lunches and the hostess served coffee, Honey Lady was intrigued by the contents of a neighboring woman's basket, for she had brought just plain bread and butter sandwiches and a bowl of salad? This suggested to Honey Lady that next time she went on such a bat she would do likewise. Only instead of a Waldorf salad, she took in a jar several slices of pineapple, and in a

wax paper several crisp lettuce leaves. These she arranged on arrival at the picnic on a paper plate and produced from a close-sealed jar a fluff of honey-sweetened whipped cream. With this she filled the hollow in the pineapple ring, and was it good? It was! Such a salad incidentally is lovely to serve when giving a formal luncheon at home. The addition of a topping of Marischino cherry makes the salad very beautiful to look at!

If taking hot coffee in a thermos and you use both "sugar and cream" take in a smaller thermos cream sweetened with honey or sugar, and see how differently good the mocha brew becomes!

Naturally in giving all these recipes Honey Lady has two things in mind, in addition to wishing to pass along all the good discoveries she makes with honey cooking, i.e., first of all, that her readers like the taste of honey, and secondly that they have honey to use.

And now Honey Lady is going to bring on the cake, or cookies for this picnic, wishing heartily as she does so that you were all here or out in her lovely big back yard, so she could serve you honey lemonade and some of these

#### Honey Cookies

which to make requires

- 1 cup sugar
- 1 cup honey
- 1 cup butter
- 1 cup sour cream
- 5 cups white flour
- 1 teaspoonful soda
- 1 teaspoonful baking powder,
- mixed with the flour
- 1 teaspoonful salt
- 2 eggs

Cream the sugar and butter; add the honey; then the sour milk, then add the dry ingredients all blended well, and last of all the eggs, well beaten. Stir to a stiff batter, and drop by teaspoonfuls in a baking tin. Bake to a light brown.

— 0 —

#### Bee Lines

A bee line to dress comfort is to make what this writer has christened, little "snap straps" of heavy tape or a fold or two of self material, sew, at one end, the "hole" side of a snap, and the "eye" to the under part of shoulder seam. Sew plain end of strap to the shoulder seam and when putting on your dress, catch all lingerie straps in this little holder. It obviates the constant "yanking up" of the shoulder straps and saves no end of nervous energy and time.

— 0 —

If, by chance, a wild bee stings you when on your picnic, or a mosquito becomes too familiar, you

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Select Untested	-----	\$ .50 each
Tested	-----	1.50 each
Select Tested	-----	3.00 each
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For gentleness and thrift there are none better. I use your queens exclusively for breeders.—Victor D. Sutherland, Va.

I have been buying this breed from Sturges, Sussex, Eng. But unfortunately, this gentleman has passed on, so I'm unable to procure any more. So I should like to get the original from you as I like them very much. They are the best breed I have.—J. W. Edwards, England.

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Pure Golden or Three-Band Italians, Very LARGE and Prolific. Certified, fully guaranteed. Untested, 50c. Tested, \$1.00.

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tion The American Bee Journal**

will get instant relief by dampening a bit of clay and making a little poultice for the bite. If there's a stream near by the ready made mud at its sides will be even more effectual.

— o —

For a little "snack" on a summer's night just before turning in, crush peaches or any other fruit you may have, sweeten with honey and spread on a piece of bread and butter, and drink a glass of milk.

Fine! And it's wholesome and doesn't cause nightmares.



## Meetings and Events

### Wayne County (Mich.) Detroit August 11

Next meeting of Wayne County Beekeepers' Association will be held on Sunday afternoon, August 11, 1935, at the home of Arthur Blakley, 17379 Greenfield Road, Detroit. Any beekeeper is welcome. The coming State Fair exhibit will be our topic. Suggestions are wanted on that subject. Walter E. Becker, Sec'y, Detroit, Michigan.

### North Dakota and Minnesota Bee- keepers Pledge Honey to Institute

North Dakota and Minnesota beekeepers in a joint summer meeting of the two associations at Crookston, Minnesota, July 19th, pledged more than five thousand pounds of honey to American Honey Institute. [This is great. Other associations get busy on this idea.—Ed.]

### Missouri State Fair

Clay T. Davis, superintendent of the apiary department of the Missouri State Fair announces that there will be an increase of \$35 in premiums offered this year. Fifty dollars is offered in honey cookery with a first prize of \$16. The first prize winner in the honey and wax classes will carry away \$78.50.

Prof. F. B. Paddock, Iowa State Apiarist, is to judge the honey exhibits and Mrs. Claire Montgomery, Home Demonstration Agent of Pettis County, Mo., will judge the honey cookery classes.

For complete premium list write secretary of the fair, Charles Green, Sedalia, Missouri.

### Summer Meeting

A very successful summer meeting was held by the Iowa Beekeepers'

### Dark Amber Kosher Honey

Kosher honey is sold in many delicatessen stores catering to Jewish trade in Philadelphia and New York. At least two packers market this. The labels on the bottles bear the "kosher" mark. The honey is darker than that usually bottled, being a dark amber. At the Jewish holiday season great quantities of honey are sold. Honey to bear the "kosher" mark must have the approval of a rabbi.

S. F. Haxton,  
Pennsylvania.

Association near Merville in Woodbury County on July 11 and 12. More than a hundred beekeepers were registered and much interest was manifested in the demonstrations and talks. Mr. Mason of the Bank for Cooperatives of Omaha was the principal speaker. He was followed by Kenneth Hawkins who told of the work of the American Honey Institute. The following were the winners of the contests:

### Cake Contest

- 1st.—Mrs. W. E. Dudley, Blencoe, Iowa. Bee outfit consisting of smoker, veil, gloves and hive tool.
- 2nd.—Mrs. R. Frandsen, Anthon, Ia. One year subscription American Bee Journal.

### Queen Finding Contest

- 1st.—Claude E. Peterson, Lake City, Iowa. Complete hive.
- 2nd.—Harvey Nichols, Sioux City, Iowa. Smoker.
- 3rd.—George Earley, Danbury, Iowa. Hive tool.

### Smoker Contest

- 1st.—George Earley, Danbury, Iowa. Complete hive.
- 2nd.—Harvey Nichols, Sioux City, Iowa. Smoker.
- 3rd.—L. M. Gates, Lincoln, Nebraska. Three Italian queens.

### Winner of the Five Colonies of Bees Roy Littlefield, Exira, Iowa.

### Michigan's District Two Meeting at Adrian, August 8

Beekeepers are cordially invited to attend the annual summer meeting of the District Two, Michigan Beekeepers' Association, to be held in Riverside Park, Adrian, Michigan, August 8th, 10 a. m. An interesting and varied program is planned. Come

and afterwards attend the meeting at East Jordan on August 10.

John D. McColl,  
Secretary.

#### Michigan Association to Meet at East Jordan, August 10th

The Michigan Beekeepers' Association will meet at the home of Ira D. Bartlett, East Jordan, Michigan, August 10.

#### Florida Meeting at Cocoa August 7-8-9

The Florida State Association will hold its annual meeting in the Chamber of Commerce Building, Cocoa, August 7th, 8th, and 9th. Come, bring your family, and a few bottles of honey for display. The honey will be returned.

A good program is being arranged. Bring bathing suits. Don't miss the picnic and the fish fry the afternoon of the 8th and the beekeepers movie at night.

Lynn M. Dewey, Pres.  
M. Darby, Secretary.

#### Springfield, Manitoba Has Restricted Bee Area

Acting under powers granted by an amendment to the Animal Husbandry Act at the last session of the legislature, the government passed an order-in-council making Springfield a restricted bee area. A certificate will be necessary before bees can either be moved in or out of the municipality.

The beekeepers of Springfield petitioned the municipal council for relief because they were exercised about over-stocking. The municipality of Gray, southeast of Springfield, also has a petition for restricted bee locations. The new law was enacted to prevent the spread of disease but is being used for a different purpose in this instance.

F. H. Fullerton,  
British Columbia.

#### Knox County Meeting Well Attended

The second field meeting of the Knox County (Illinois) Association held at the home of Charles Kjellander, Galesburg, was well attended, twenty beekeepers being present from the county. Elmer Kommer, inspector, of Woodhull, gave a demonstration of the eradication of American foulbrood. He also demonstrated how to find and clip queens and how to detect disease. The next meeting is to be held at an apiary which was cleaned of disease last year to show what is accomplished by these demonstrations.

Ernest Huggins,  
Secretary.

#### Piatt County Enjoys Meeting

The Piatt County Association held an interesting meeting at the Court



*The New* HAZEL-ATLAS  
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A modern honey jar that combines an up-to-the-minute sales-boasting design with the practical considerations that appeal to the packer, big, smooth label space, wide mouths, heavy bases. Capacities from left to right: one-half pound; one pound; two pound; three pound; and four pound. Write for prices and free sample.

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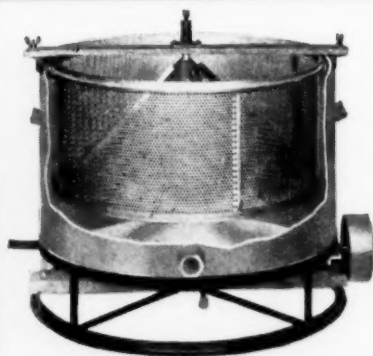
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House at Monticello, Illinois, June 10th, with forty in attendance. Several from Decatur and Macon County. A special feature was old-time music by Geo. Stanley, violinist of Monticello and Harold Helton, banjoist of Weldon.

Emory Warner, Monticello, Secretary, discussed organization. Willard W. Smith, DeLand, President, talked on "Saving the Beeswax." Plans are underway for a picnic in the future.

Reported by Willard W. Smith.

### New Hampshire Association at Durham, August 15

The New Hampshire Beekeepers' Association will hold its annual meeting in connection with Farm and Home Week at Durham, N. H., on August 15th. The speakers will be Professor Rea, Cornell University; Mr. Mraz from Vermont; Prof. Rasmussen of New Hampshire; Prof. Hepler of New Hampshire. The afternoon will be devoted to demonstrations on handling bees, requeening, wintering, and other topics of interest.

J. R. Hepler,  
Horticulturist.

### Clay-Vigo (Indiana) Joint Meeting Excellent

We had an excellent time at the Clay-Vigo Joint Field Meeting Saturday, June 22nd. The program started with a honey baking contest. The winners and awards were: First prize, roasting pan, donated by Adam Snider, Terre Haute, to Eunice Boyll, Pimento, for Loaf Cake. Second prize, \$2.00 merchandise order from Sears, Roebuck & Co. retail store, Terre Haute, to Mary E. Hos, Terre Haute, for Fruit Cake. Third prize, aluminum percolator, donated by Kattman & Tilley, Brazil, to Anna Havens, Terre Haute, for Angel Food Cake.

The picnic dinner was spread promptly at noon and music was furnished by the Greenwood band.

At 1 o'clock L. R. Stewart of Vermillion County talked about "All Around the Bee Yard." The next speaker was James E. Starkey, Inspector of Apiaries, who reported happenings from here and there in Indiana and explained the new State Fair.

Dr. Smith, Professor of Botany, Indiana State Teachers' College, gave an interesting talk on pollen plants enumerating the plants common to this section with large charts to make the talk instructive.

Other speakers were C. E. Worman, Vigo County Fair; W. M. Weber, Indiana State Association President; B. H. Wilkins, inspector; Elmer Bedwell, President of the Greene County Association.

Beekeepers donated \$6.60 at this meeting for American Honey Institute. Reported by Wm. A. Pogue, Indiana.



**Indiana State Fair  
August 31 to September 6**

Begin plans for your apiary exhibit now. Write Commissioner of Agriculture, Room 332, State House, Indianapolis for premium list and entry blanks. The premium money has been increased 25 per cent. The main changes are in awarding five premiums instead of the usual three, giving more chance in competition and in the addition of an amateur class. Also all exhibitors should note that all amber extracted honey will be subject to chemical analysis for overheating, scorching or artificial coloring.

Indiana women are urged to compete for the premium offered for honey cookery. This is the first time such a premium has been offered at the Indiana State Fair. Let's make it a success. County association officers should get the needed publicity and members should enlist their women to bring in exhibits.

James E. Starkey,  
Indiana.

**Winnebago Meeting With Forty-five**

The Winnebago County (Illinois) Association held a picnic field meeting at Benjamin Beach's home at 126 Clifford Avenue, Kewanee on Sunday afternoon, June 16th, with forty-five present. Inspector Duax and Mrs. Duax were present. Mrs. Duax gave a fine talk on the value of honey and demonstrated making honey meringue and Mr. Duax held a discussion about field inspection and the work of the deputies.

Sebolt Claussen of Oregon, Ill., displayed a perfect specimen of foulbrood and told about its destructive work in the apiary.

Although a heavy rain started about 2 p. m. dinner was set on tables in the long garage where everybody enjoyed themselves. Music was furnished by Lee Weller and Mr. Duax.

Reported by E. F. Peterson,  
Kewanee.

**Vermont Meeting, August 24th,  
White River Junction**

The Vermont Beekeepers' Association will hold the annual picnic meeting on August 24th at the residence of Lee Faneuf, Jr., Wilder, Vermont, about two miles north of White River Junction on the Main Road, Route 5.

The speakers will be: Prof. J. R. Hepler, University of New Hampshire, "What to Do With Bees for Winter"; Prof. E. J. Rasmussen, University of New York, "Keeping Bees for Orcharding"; Fred Bingham, Middlebury, Vermont, "Wild Thyme as a Honey Plant"; Dr. R. J. Goss, Wilder, Vermont, "Honey as a Food."

Beekeepers and their families are invited.

Chas. Mraz, Sec.-Treas.,  
Middlebury, Vt.

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Immediate shipment.  
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Ultra Violet Ray Treated (Patent U. S. 1868042  
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10 or more 80c each.

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100 lb. lots 40c lb. 10 lb. lots 42c lb.

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100 lb. lots 36c lb. 10 lb. lots 37c lb.

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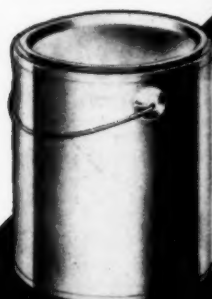
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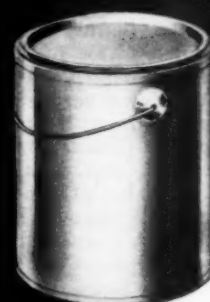
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# Crop and Market Report

Compiled by M. G. Dadant.

For our August Crop and Market Report, we asked the following questions:

1. How is the crop so far compared to 1934?
2. Condition of bees compared to 1934?
3. Prospects for balance of season?
4. Are buyers active? What are they offering?
5. How is honey selling locally?

## Crop Compared to 1934

In the New England states, the crop is probably equal to 1934 as it is in New York, Maryland and Virginia. However, in the Carolinas, the crop has been much less than in 1934. Georgia reports somewhat better than last year with conflicting reports from Florida apparently on account of the shortage of the orange flow. The tupelo flow seems to be better than a year ago.

Throughout the balance of the South, conditions are about normal except that southern Louisiana has had an extreme shortage of flow.

Nor can Texas claim to have had a normal flow although perhaps as much as last year. New Mexico is likely better than a year ago and Arizona at least equal.

Pennsylvania reports a rather short crop up to this writing with Ohio and Indiana and Illinois giving conflicting reports apparently from the fact that the sweet clover regions were yielding whereas the balance of the territory was not. Iowa is apparently in the same condition except in western Iowa the reports are good.

Michigan is much ahead of a year ago, Wisconsin equal and Minnesota at least normal. The plains areas apparently are the areas which are reporting a great increase over last year owing to the fact that the sweet clover did come out of the drought in better condition than had been anticipated and of course we have rainfall this year whereas a year ago the crop necessarily was cut short owing to the drought.

Colorado perhaps is not up to normal although our expectation is that it is better than a year ago and Utah reports very much better. The northern intermountain states—Wyoming, Montana and Idaho—do not report any better than last year, likely due to the shortage of available honey plants. Conditions in these states we would think are about 75 per cent with somewhat the same condition in Nevada. On the Pacific coast, Oregon and Washington report conditions much better than a year ago. The same is true of California except that the crop is not nearly so large as had been at first anticipated on account of the heavy rains. Bees apparently dwindled and did not come up again for the honeyflow and the result is, although there will undoubtedly be more honey than a year ago, the flows have been disappointing, particularly in central and southern California.

## Condition of Bees

Very few reports come in that the condition of bees is any better than it was a year ago and in most instances, bees are apparently in not as good shape for the crop as they were in 1934. This undoubtedly was caused by the cool and rainy weather which induced considerable swarming and also will have a tendency to cut down on brood rearing. The New England states apparently have bees in as good a shape as in previous years and this would also apply to the sweet clover sections.

In the balance of the country, however, we believe that bees are below normal.

## Prospects

While conflicting reports come in as usual, our idea is that prospects are about normal from now on in most of the clover yielding sections which now comprise practically the entire country.

Naturally the white clover sections, particularly in the Mississippi Valley, are not anticipating anything this year on account of the lack of carryover of old clover plants.

The prospects seem to be most nearly normal or above in the plains states and in northern sections as well as in Utah and western Colorado.

All in all naturally, the prospects for a honeyflow are better than they were a year ago when we were going through the terrible drought. This is particularly noticeable in the prospects for fall flows throughout the fall flowering regions.

If we have any rainfall during the balance of the summer, the prospects for an abnormal fall flow are good. Corn fields are weedy everywhere and many fields have not even been planted so that the number of fall plants will be extremely large. We look for a rather decidedly large crop of fall honey.

## Buyers

Buyers are not particularly active on the Pacific coast and in some sections of the South and Southeast. However, the volume of honey in the South and Southeast we believe is not going to be sufficient to take care of the local needs, let alone ship to outside buyers in any quantity and some reports coming from down there are to the effect that the new honey is in heavy demand already both on the part of the consuming public and on the part of bakers to whom a large quantity of this is now sold.

Buyers are, however, active in the heavy producing and shipping areas.

Naturally the early offers are low. They will perhaps run 1 cent per pound lower than last year and some sales are being made on this basis. As a matter of fact, if one is a buyer of honey and acquainted with the market, no doubt he can get some bargains right now. Buyers are offering as low as 4 cents to 4½ cents for good white honey f.o.b. shipping point although in some sections we hear of offers of 5¼ and 5½ cents and one party sold at 6½ cents f.o.b. station. Our idea is the 6½ cent price at this time of year is just as much out of line as the 4 cent price is.

There is no criticism whatever of buyers. Naturally buyers who happen to handle honey are going to buy as low as they can and if the beekeeper is unacquainted with the market, he will have to suffer the penalty of getting a low price for his honey.

While there is no doubt at all that the crop throughout the country is going to be somewhat in excess of last year, we do not look for anything like a heavy crop in 1935 and our idea would be that it would not exceed over 20 per cent above the 1934 crop unless conditions turn abnormally good during the balance of this year.

Our recommendation, therefore, would be not to be in an extreme hurry to sell the crop because we do not believe that the opening offers on honey are going to be quite in line with what they will be a little later on in the fall.

## Honey Selling

In a local way, honey seems to be selling fairly well everywhere. This is particularly true in the southern states where the honey sales are really in excess of what they were a year ago.

A number of reporters state that they have demand both in a retail way and from bakers that they cannot fill and are awaiting the new crop. It is true that most of the handlers of honey have cleaned up in good shape on their carryover of honey. As a matter of fact, more honey has moved in June and July than in previous years we believe. This is largely due, of course, to the demand from the bakers.

On the other hand, there is going to be a very heavy crop of fruit and berries this year which may have something to do with the demand for honey.

All in all, however, with conditions improving, we do not look for much dropping in demand for honey, nor is there a sufficiently large crop to cause any worry.

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## The POSTSCRIPT

GOSSIP ABOUT THE OFFICE IN THE MAKING OF THE MAGAZINE

Just when we had been having excessive rain in early June a letter came from Charles Mraz, of Middlebury, Vermont, telling of the dry spring in that locality. Last year this section was parched but May of this year brought more than the usual amount of moisture. Apparently things average pretty well over a long period of time.

— o —

John M. Bixler, an Iowa beekeeper, was one of the first to bring to our attention the fact that such a thing as resistance to foulbrood might be present in some strains of bees. For many years he has operated an apiary from colonies surviving in a yard almost entirely destroyed by disease. While the disease persists and he still loses an occasional colony, he is able to get large yields of honey and to maintain strong colonies in a neighborhood where others have lost nearly everything.

It is very evident that his bees have some measure of resistance.

— o —

Inquiries have come for seed of the wild alfalfa, (*Medicago arborea*) which is said to grow to a height of ten feet or more. I do not know of any source of seed in this country, but it may be possible to find it by inquiry to the Office of Plant Introduction, United States Department of Agriculture, Washington, D. C. *M. arborea* is suited only to warm climates.

— o —

A Pennsylvania reader wants to know whether the bees get any honey from mint. Many plants belonging to the mint family are good honey plants. Both spearmint and peppermint yield much honey in some localities. It would be interesting to hear from beekeepers as to quality and yield.

— o —

J. J. Homolka, of Brownville, Florida, writes to defend the Cyprian bees, saying he has one yard of them. He describes them as good honey gatherers, strong flyers, going far for food and no worse than Italians to sting. He regards bees resulting from the Carniolan-Italian cross as about the most vicious bees in his experience.

— o —

There are many minor sources of nectar about which we seldom hear because they are not common enough. An occasional bush or plant cannot be of much importance no matter how rich in nectar it may be.

In the month of June the bees were observed to work the mock orange vigorously, and some days they fairly swarmed over the flowers. Yet with probably not more than two or three dozen of the bushes within flying range, the total harvest from this source must have been very small.

— o —

J. B. Douglas, of Bonita, Arizona, writes of days when his scale hive showed gains of twenty-two and twenty-three pounds. A heavy honeyflow is required to register such gains as this; and they indicate a good location, if only a temporary one. Because of advanced age Mr. Douglas is ready to dispose of his outfit and to retire, although his interest in bees is as lively as ever.

— o —

Fred H. May, of Meredosia, Illinois, observes that winter vetch in his orchard is very attractive to bumblebees but has few honeybee visitors. Evidently, he thinks, there is plenty of nectar which is too deep for the honeybee.

— o —

There is an occasional inquiry about Hubam clover. After all its boom, the annual sweet clover has found but few advocates among the farmers. The common biennial sweet clover still holds first place as a popular forage plant and soil builder.

— o —

I have been much interested in the large number of insect visitors to the blossoms of the purple raspberries in late June. Beside honeybees in large numbers there were bumblebees, numerous wild bees, moths, butterflies and bee flies. Apparently the blossoms are very rich in nectar and fortunate is the beekeeper within reach of a large acreage of raspberries.

Spiderwort is an interesting plant in its relation to the bees. Very early in the morning it is eagerly visited by honeybees in search of its abundant supply of pollen. Soon the supply is exhausted and the bees pay no further attention to it until the next morning.

— o —

I have just been mowing the grass around the beehives and now and then I paused a few moments to rest and to watch the birds in the mulberry trees. There is nothing that I have found equal to the mulberry for attracting the summer birds. Squirrels like them, too, and those in our grove have moved into the mulberry trees since the berries are ripe. Four fox squirrels at one time are feasting on the ripe fruit. They have built a big nest of leaves in the top of the tallest mulberry where they are right at home.

— o —

The dry seasons have so nearly killed out the white Dutch clover in this locality that it has become necessary to feed the bees in June, the time that flow of nectar from this clover is usually coming in. This summer's wet weather is bringing it again, however, and new seedlings are growing in the pastures and along the roadsides. Perhaps next summer may show us another old-time clover flow.

— o —

The organization of the National Apple Institute brings a bit of interesting news to the many beekeepers who are acquainted with the President, Professor B. S. Pickett, of the Iowa State College or Dr. H. E. Barnard, former director of the Honey Institute, who is the secretary and general director. Other offices are filled by well known orchardists of the mid-west region. Apples and honey should be able to cooperate effectively in such efforts since neither can replace the other, and no competition seems possible for a place on the table.

The American Honey Institute owes much of its success to Dr. Barnard's efforts in the early days of its organization.

— o —

The Virginia creeper is a native vine which has great attraction for the bees. As I write one of the vines on a trellis near the door is fairly covered with them. They are getting much pollen and apparently some nectar. One wonders how much honey the bees would harvest from this source if the vine were as plentiful as some of our major honey plants.

— o —

Five packages of Caucasian bees received from Herman Rauchfuss, of Englewood, Colorado, brought a new type of shipping cage to my attention. The cage is about four inches deep and the size of a ten-frame Langstroth hive. To remove the bees after placing queen in hive, it is only necessary to withdraw a strip about an inch wide running across the package which is turned face down on top of the hive like a super. It has some advantages over the cages in common use. Rauchfuss is an ingenious chap, and a visit to his apiary is a never to be forgotten experience for any beekeeper.

— o —

D. W. Taylor, of Waldrop, Virginia, comments on the mention in the July Postscript of wild onion as a honey plant. He contends that wild onion has possibilities as a grazing plant. I seem to remember that in the pioneer days of my childhood there was complaint of the taint of onion in the milk when the cows grazed on wild onion.

There are references to wild onion in old bee magazines which indicate that pioneer beekeepers harvested good crops of onion honey before the breaking of the wild sod.

— o —

The basswood bloom this season has been as heavy as I ever saw; yet, the bees did not seem to do much with it, although little else was available here. Basswood is an uncertain source of nectar. Sometimes it yields heavily, at other times nothing at all.

FRANK C. PELLETT,  
Atlantic, Iowa.